

CONTRIBUTIONS TO MODERN EDUCATION

General Editor: SUSAN ISAACS, M.A., D.Sc., Head of Dept. of
Child Development, Institute of Education

3s. 6d. net each

THE NEW ERA IN THE JUNIOR SCHOOL

BY E. B. WARR

THE CHILDREN'S PLAY CENTRE

BY D. E. M. GARDNER

THE NEW ERA
in the
JUNIOR SCHOOL
by
E. B. WARR



METHUEN & CO. LTD. LONDON
36 Essex Street Strand W.C.2

First published in 1937

PRINTED IN GREAT BRITAIN

FOREWORD

IN this series of books upon various aspects of modern education, it is hoped to make each volume a contribution to some specific practical issue. Miss Warr's description of her work in the Junior School will be very welcome to other teachers. As she suggests, this field of education is more urgently in need of new life than any other.

In her earlier chapters, Miss Warr surveys the general development of children between seven and eleven years, drawing partly upon well-known experimental studies, but adding a number of her personal observations. These first-hand studies of her own, although not carried out with rigid scientific procedure or on a large enough scale to establish new truths, are nevertheless valuable as supplementing and further illustrating the results of more exact studies. They should prove illuminating to practical teachers, since they show how much of the child's interests and ways of thinking and feeling can be studied at first hand in the school.

It is, however, the chapters describing Miss Warr's own educational work, her modification of curriculum and method in the Junior School, which will be of the greatest interest to teachers. These chapters evince a broad and humane approach to the education of the Junior School child, a vivid understanding of his needs and interests, and unusual resource and adaptability in meeting them. Miss Warr shows us how it is possible to use the child's natural interests in everyday human life and human history as the starting-point of his serious work in the school, of the gaining of necessary knowledge, and of a continuous discipline in the art of learning. She demonstrates clearly how teacher and children together may learn to use which ever among the variety of possible methods may be the most suitable for the problem in hand; in other words, how they may become masters, instead of slaves, of educational doctrine.

SUSAN ISAACS

CONTENTS

CHAPTER	PAGE
I. THE JUNIOR SCHOOL PROBLEM	I
II. OBSERVATIONS ON THE PHYSICAL DEVELOPMENT OF CHILDREN BETWEEN 7 AND 11	5
III. OBSERVATIONS ON THE INTELLECTUAL DEVELOPMENT OF CHILDREN BETWEEN 7 AND 11	15
IV. CHILDREN'S QUESTIONS	31
V. OBSERVATIONS ON THE AESTHETIC DEVELOPMENT OF CHILDREN BETWEEN 7 AND 11	40
VI. CREATIVE ACTIVITY: THE JUNIOR CHILD'S JOY IN MAKING AND DOING	49
VII. THE INTERESTS OF CHILDREN BETWEEN 7 AND 11	55
VIII. THE JUNIOR CHILD'S ATTITUDE TOWARDS HIS ENVIRONMENT	73
IX. THE CURRICULUM	80
X. A JUNIOR SCHOOL EXPERIMENT	103
APPENDIX — FAVOURITE BOOKS CHOSEN BY JUNIOR CHILDREN	125
BIBLIOGRAPHY	129
INDEX	135

CHAPTER I

THE JUNIOR SCHOOL PROBLEM

WE are now on the eve of a new era in the Junior School in England. This has been brought about on the one hand by the recognition of definite developmental stages in life. There is now general agreement that the years from 7 to 11 constitute a fairly well-marked phase of mental and physical development.

On the other hand there is the more incidental influence of the reorganizing and grading of schools by the Board of Education. The Report of the Consultative Committee on the Education of the Adolescent as long ago as 1926 pointed out that primary education should be regarded as ending about 11+. It was only indirectly that the need was recognized for reorganizing education for children between 7 and 11.

There is much talk now of the new Junior School, and while rapid progress has been made with the development of elementary education since 1919, when explicit provision was made by some education authorities for the teaching of children between 7 and 12, we have not yet arrived at any satisfactory general provision for children of this age. Excellent work has been done towards giving teachers a fuller knowledge and understanding of the pre-school child and of the Infant period by Gesell, Susan Isaacs, and others, but the period which we shall refer to as the Junior School period, that is from 7 to 11 or 12, has not yet been so thoroughly investigated. It tends to be treated merely as a transitional stage between infancy and adolescence, with no very marked characteristics of its own. The Nursery and Infant Schools have reaped the benefit of great pioneers in education, such as Froebel and Montessori, and Infant teachers uphold the tradition of free development. All are agreed upon the importance of the impressionable years under five when the child

develops his ego, and many teachers, attracted by child study and the rapid development of new methods, have chosen the Infant School or the Kindergarten. Others, with an enthusiasm for one particular subject, have joined the ranks of specialists and entered the Senior School. The Junior School teacher has perhaps felt 'left behind'. No one seems to bother much what Juniors do, for Juniors seem to be neither one thing nor the other. They have to be taught the three R's and a few other things, and, if possible, to be pushed through the scholarship examination.

When it is realized that the Junior stage is quite as important as any other and embraces a large percentage of our school population, of eager, active and vital boys and girls, it will surely be seen that the opportunities offered by the Junior School are at least as great as elsewhere.

If we appreciate this fact, we can no longer be content with the existing curriculum, or the existing methods of teaching. On the one hand we have in the past continued 'Infant method' too long, with the result that the intelligent and vigorous eight-year-old is not satisfied. This has often happened when anxious teachers, eager to embrace 'new' methods, have 'spoon-fed' children, who should have been working hard, on interesting 'titbits'.

With a swing of the pendulum against lifeless, formal work we have become afraid of teaching. I have seen a great deal of time wasted by intelligent eight- and nine-year-olds in miserable little bits of handwork called 'expression' that have been tacked on to lessons in the belief that this is what modern education expects. I still see evidence of the mistaken idea that 'self-expression' is something added to their lessons by teachers of young children. Not long ago I was asked by the parent of a prospective pupil, 'Do you teach Froebel here?' And while I was considering what the question meant, he continued, 'I mean, do they learn *all* the time, or do they do raffia and things like that?'

The new Junior School has the opportunity of combating such erroneous ideas of modern education.

On the other hand, we have often begun formal education too soon, which brings a lifeless textbook atmosphere into the classroom, and children with active interests and curiosity, with a desire to make and to do, have been confined to cramped positions and passive occupations for too long. We must guard against the danger of considering any stage in isolation from the preceding or the following ones; there are no hard and fast boundaries. But we must also beware of making one stage merely a preparation for the next. It is only if this Junior phase of the child's mental, emotional and physical growth is allowed full development that he will pass normally on to adolescence. We cannot really make up in this period what should have been given earlier; neither can we, by a precocious introduction of subjects for which the child has no interest, hurry him on to the next, without danger to that period.

There are practical difficulties in the way of reform in our curriculum, and not the least important is the examination. The rigidly narrow requirements for the scholarship examinations to the Secondary Schools, and the standard of formal work necessary for entrance to most of the girls' and boys' public schools, constitute a real problem if we are to be true to what we believe is right for this stage. Until there are changes in this direction, and until it is recognized that the succeeding stage can only be reached gradually, by the full development of the present one, we must be content to do what we can. We Junior teachers must uphold a true conception of the value of education, not by using coercion, but by helping the children to a living experience. Meanwhile we must be willing to experiment—not to rush after new methods, but to discover for ourselves which methods work best. There is as yet no established technique for Junior School teaching. The Dalton Plan has been found a satisfactory alternative to, or complement of, class

or group lessons for Seniors. We have the Project method, the Play way, and so on; but it is not simply new methods we want. These, with their new hoards of apparatus, tend to become crystallized, and in them we may readily lose the spirit of freedom.

What is needed on the part of Junior teachers is a new attitude of interest in our children, a new relationship between teachers and children, where both believe that what they have to do is vital and important. This, indeed, is not new; it is as old as Pestalozzi and Froebel, but we have never learned how to put into practice the principles of these early educators. Our task is no easy one. We must take the trouble to know our children—their characteristics and common interests as Junior children, as well as their individual needs and requirements.

Education should, above all, be joyous; the healthy, vigorous school life of the Junior should be happy. That does not mean that all the *processes* of education are necessarily joyous; they are often arduous; without the trouble of learning a poem we cannot possess it. But children should learn to know early in life that hard work in the things that matter does lead to a great deal of joy.

CHAPTER II

OBSERVATIONS ON THE PHYSICAL DEVELOPMENT OF CHILDREN BETWEEN 7 AND 11

IN modern educational practice we are concerned with the whole child—not only with his mind, but with his body and his spirit. A healthy mind in a healthy body, emotionally developed and socially adjusted, is our aim.

In a study of Junior children, therefore, we must consider the physical characteristics which they have in common as Juniors, as well as the special differences which may characterize them as individuals.

In any group of children of the same age there will certainly be physical differences by which we can recognize various types. There will be, for example, the tall, thin children, the short and thick-set, the slight and wiry, and the heavily built muscular children. These physical types are commonly associated with different temperaments. It is important to remember that the so-called normal physique is the average, not the ideal. Thus a child may be normal in some, but not in all directions. The tall child who is growing rapidly is not necessarily the quick child; he is often slow and dreamy.

No attempt is made here to give any full account of the physical development of the Junior School stage, but observations are noted which may help the teacher to know what to treat as normal, and what to regard as deviations from the normal.

The following are some of the chief features in physical development which may be said to characterize the Junior stage:

1. The child at 7+ is just beginning what has been called the second 'filling out' period; that is, a period of steady growth in height with increase of relative weight and muscular development. This is continued until 10+,

when there begins the second 'springing up' period of the early teens, and the child grows more rapidly in height. As shown by the chart reproduced in the Primary Report, the average height between 7 and 12 is 3 ft. 8 in. to 4 ft. 8 in. for girls, and 3 ft. 8 in. rising at first more rapidly, then more gradually, to 4 ft. 6 in. for boys. The average weight at 7 is 50 lb. for boys and a little less for girls, rising gradually to 67 lb. at the age of 10, when they are both even, boys rising slowly to 74 lb. at 12 years, and girls rapidly to 76 lb. Thus in the earlier Junior stage boys are on the whole rather taller and heavier than girls, at 10 they are about even, and after this girls begin to go ahead until 15 or 16.

2. Just about the age of 7 the mode of breathing begins to alter, and a distinct difference is found between the breathing of the Infant and of the Junior child. Before 7, the chest is tubular. In breathing the upper part is lifted and the diaphragm lowered, so that it is an 'up and down' movement. At 7 the child has begun to push out his ribs, and there is also lateral expansion in breathing. This change is a very important one and indicates the normal development of the child. Rapid growth or nasal obstruction may prevent this, and the thin child who is tall for his age should be carefully watched and given plenty of rest. Special 'breathing exercises', except in certain conditions, are not of much value and may do harm in making the child conscious of the action. Breathing should be unconscious and natural, and play in the open air, running, jumping, skipping and climbing, will do more to induce natural deep breathing than directed exercises.

3. The lymphatic glands, tonsils and thymus, develop very rapidly in childhood. The hypertrophy of the lymphoid tissue between the back of the nose and the mouth—known as 'adenoids'—is well known to be a fairly common Junior School age occurrence. Adenoids may be caused by infection from colds, from fevers, or by improper feeding with too great a proportion of starchy

food. The characteristics are open mouth, dull appearance, pinched nostrils, narrow chest; and the symptoms most noticeable in school are mouth-breathing, frequent colds, and sometimes deafness when the Eustachian tube is obstructed or when the infection from the adenoids sets up inflammation in the middle ear. Doctors generally agree that operation is the only cure. It is often the teacher who can draw attention to the presence of adenoids, and it is certainly the teacher who can help with the all-important post-operation correction of faulty breathing habits.

The tonsils at the back of the mouth, one on each side of the upper part of the throat, act as guards against the invasion of bacteria. If, however, the infection is too much for the tonsils to deal with, they become infected themselves and may become enlarged or septic. Doctors now tell us that if they are not septic, enlarged tonsils are not usually a source of danger and should not necessarily be removed, as these lymphoid tissues tend to shrink towards puberty. If, however, there is any sign that the tonsils are septic and are infecting the body, the medical view is that they should be removed completely by dissection.

4. The transition stage when the child sheds his first teeth is generally passed by the time he arrives in the Junior School and the permanent incisors are in various stages of growth. The first permanent molars have been cut, and they are sometimes prone to decay, which increases very rapidly and causes much pain if not attended to. The temporary molars sometimes become very troublesome between 9 and 10 before they are displaced by the permanent bicuspid. Children at this time may be troubled with septic teeth and gumboils if they are not seen regularly by a dentist, and toxins poured into the blood-stream from these causes may lead to general ill-health. Towards the end of the Junior period the 'first teeth' are all shed and the mouth usually has a sound appearance. Preparatory School parents are

now much more careful in having regular dental treatment for their children, and the Elementary Junior Schools have regular medical inspection, so that in this direction part of the problem is solved. But doctors and dentists now agree that diet is the most important factor in prevention of dental caries and irregularity of teeth.

Calcium and the vitamins to be found in fresh fruit and vegetables are essential, while sugars and carbohydrates in undue proportions are harmful.

5. Teachers now recognize the importance of the knowledge that there is a difference in the structure of the eyeball of the child and of the adult. Little children are no longer required to focus their attention on a closely printed page. The first books children use are printed in suitably large type; fine handwork is not given; writing is not confined in coloured guiding lines, nor is the child compelled to stitch with red cotton on fine white material. All these terrible practices are done away with. But what we still need to recognize is that the eyeball is not developed normally until the age of 11. The great point in the structural difference between the eye of the child of 7, for example, and that of the adult is that the child's eye is relatively much shorter, so that there is a smaller area within which rays can be brought to focus. In order that rays can be bent and focused on the retina and not beyond it, the convexity of the lens must be altered by the muscles of accommodation. The lens itself is more convex in the child than in the adult so that a greater strain is put upon the ciliary muscles, which become easily fatigued. This often accounts for the fact that children in reading aloud will begin well, but gradually begin to make omissions, inversions, and to stumble along at the end of a paragraph. Too much strain is put upon the muscles of accommodation and convergence in work which entails copying from a blackboard, when the child has alternately to focus the distant board and the near page. During the years between 9 and 11, while the eye is becoming naturally less hypermetropic, it is sometimes

necessary for children to wear corrective glasses for a time for reading and close work. Statistics show that this is more frequent in the case of girls. Statistics also show that on the average girls read earlier than boys. It is wise for teachers in the Junior School not to allow even children of 10 and 11 to read for too long at a stretch. Frequent symptoms of eyestrain at this stage are habits of continuous and rapid blinking of the eyelids, etc. These habits are very catching and may attack a whole class. There are other far-reaching dangers due to neglect of these errors of refraction, and it is extremely important that the Junior teacher should know of the tendency to fatigue of the eye muscles, that she should be on the look-out for signs, and that she should at once report to the parents or to the medical officer. Such signs may be wrinkling of the forehead, screwing up of the eyes, blinking of the eyelids, characteristic of myopia, or a tendency to hold the book at a distance, a complaint about not being able to see the blackboard, or a tendency constantly to change the angle of the page on which the child is writing, sometimes characteristic of astigmatism. Frequently, however, there are no noticeable signs, and the child does not complain, so that it is a wise plan to have the eyes tested occasionally, and the teacher must insist on suitable working materials and a good light.

The development of the growing organs—the heart and lungs—the genital organs, and changes in the endocrine system—all put a certain amount of strain on the school child, and without any obvious fussiness or coddling it is the teacher's place to see that there is no over-strain. She must watch the 'lazy' child. His laziness at a given period may be his physical salvation. She must also be aware of the psychological effect of such things as glasses, which may have to be worn for reading, of bands and plates, which may have to be worn for correction of uneven teeth, etc. These small things occurring frequently in the Junior School cause a good deal of trouble with sensitive children if the teacher does not recognize the need

for tact. The incidence of infectious disease which attacks most children during school life is less in the Junior Elementary School than in the Infant Department, but amongst children who are more protected, who live in less crowded conditions, these are of more frequent occurrence after 7 or 8. Attention is often rightly drawn to the absence from school due to after-effects of these infections during this period, and there is no need to dwell on it here.

Generally speaking, when the child is over his seventh year he is more robust, and the years before the onset of puberty are notably healthy. The Medical Officer of Health in one of our large schools, with many years' experience of the Junior School boy, tells me that there is a great deal of danger of over-coddling children. A boy who suffered from severe and constant colds while he was being educated at home, where every precaution was taken, became perfectly fit and healthy and appeared practically immune to the attack of these particular germs when he went to school, even though it entailed a journey by tram in the morning and evening through the fogs and cold of a large northern city in the winter. He was happy at school and therefore had increased vitality and power of resistance. The more the environment of school *suits* the child, the better health he will have, because more vitality is stirred up. It is for us, then, to make the environment as suitable as possible to the needs of the normal or average Junior child.

This brings us to the problem of the individual differences in development to be found amongst Junior children. They must not be treated as if they were all made in one mould. Each child has his own individual rhythm of growth, a physique given him by Nature. It is little use expecting the tall, slim child with long fingers and long limbs to be as quick in his movements as the short, muscular child who is always on the spot. The long-limbed child is the dreamer; he is often psychically deaf; we may call him lazy; he is usually attending to

something, but not to us. He has long vision, and literally so, for the long-limbed child is practically always exaggeratedly hypermetropic. Often he does not appear to progress with his work; he is poor in muscular co-ordination, but, if treated properly and not pressed, he may go farther in the end. In height he is above the average at this stage and often head and shoulders above his class-mates, but in general development he is often behind. Adler makes a great point of these irregularities in development as inevitable cause of complexes, but with the best methods of Junior education, where each child can contribute something and the same rate of working is not expected from all alike, there seems no reason why this should be inevitable. The short-limbed, muscularly well-built child is quick in response, well co-ordinated and very practical. This does not mean, however, that he is able to do more; it denotes muscular strength, not endurance or vitality.

It is the co-ordination of the various organs that is all-important; for the heart and lungs working together give power of endurance. Even if both are sound, yet do not co-operate well, there will be lack of vital energy.

PHYSICAL EXERCISE AND ORGANIZED GAMES

Exercise in the open air whenever possible should be an essential part of every Junior School day. At High March we found that fifteen minutes of exercises, such as jumping and skipping, etc., at the beginning of every morning, except of course in very hot weather, not only increased the circulation and gave rosy cheeks and the general feeling of well-being that follows physical exercise, but made the children more alert and ready to settle down to work. If they have had a good walk to school, exercises of this kind are unnecessary, but when, as is sometimes the case nowadays, they are brought by car from home to school, there is every need for this fresh air and exercise before sitting down for an hour or so. Unless

two breaks are given, it seems better that in the mid-morning break children should be left entirely free to play as they like.

The kind of apparatus used in Infant schools, for example, the climbing frame and the see-saw, the step-ladder, etc., should be replaced in the Junior School by large balls of the football or net-ball type, skipping ropes, climbing ropes, balancing forms, rib-stalls, etc. Free exercise such as children take in their outdoor play—hide-and-seek, the varieties of 'touch last', and tree-climbing—has very great value because the child is using his muscles and breathing unconsciously. Many of the organized games suggested in the Board of Education recommendations on Physical Training are most suitable at this stage. Some people question the value of organized team games for children under 11, but they have a certain value in addition to the exercise they give. Although such games as hockey, lacrosse, Rugby football, and many others, are unsuitable, net-ball may quite well be played by children of 8 to 11, and there are several other suitable ball games, e.g., 'touch and pass' and 'hand-ball', which make a good introduction to net-ball for girls, or football for boys. The real value of team games lies in learning to subjugate personal advantage to the good of the team, in the necessity of playing for a side and not for oneself, and in carrying on to the last moment because the extra effort may make all the difference to the score. There is the joy of the struggle when each does his best, whatever the result. It is good to play to win, and it is also good to know how to lose. The training involved in playing team games is also of value at the Junior stage because, if a game is to be played properly, brain and muscles must work in harmony. Training gives good 'style', which means the best results with the least amount of effort. The muscles learn to respond quickly and easily instead of awkwardly and clumsily. It is well, however, to remember that the brain tires before the muscles, and prolonged 'games coaching' is not wise at this age.

Running races and other strenuous *competitive* contests are questionable at the Junior age, for although most children are very energetic, their metabolism is very active, and in their eagerness to take part in a large number of races we must remember that serious damage can be done.

It is necessary in every case to study the individual child, for some will undoubtedly gain physical benefit from exercise that would put undue strain on others. Recreation in this sense means re-creation of the body by the elimination of poisons and a new supply of oxygen to the blood through healthy exercise.

The Junior School years are years of great opportunity both for the building up of a good physique and for training in physical skill. We cannot be satisfied until we have insured our whole school population against the physical defects due to ignorance and neglect. Medical inspection and public health legislation have done much, but the schools must work with the parents to give every child the maximum physical fitness which is his inheritance.

Suitable food, adequate sleep, and fresh air—these essentials for growing children are now guaranteed for a greater number with the better organizing of our social system. But there are other problems. Modern life, with the unsuitable use of leisure, tends to produce exhausted and disordered nerves; and neurasthenic, anxious, uncontrolled women, with no vitality, cannot bring up physically healthy children. Our life in general makes demands which, for its smooth running, require physical and mental economy. Many of us know that mere physical gymnastics of a jerky kind, and mere proficiency in games, do not bring about physical fitness.

There are two things which are essential to the child, and which he is in danger of missing in a week spent in the stimulating atmosphere of a city, and perhaps a week-end rushing about the country in a closed car. These are the need for security, the need for quiet and rest. There can be no security for the child in a home where

the parents are lacking in physical and mental poise. There can be no real rest and quiet for the child when so much of leisure time is spent in being driven about in a car or in being taken to a cinema. This kind of thing is true in hundreds of cases and particularly in the lower forms of Secondary and private schools in the suburbs of our large cities. It is the Junior School child who suffers in this way because where the parents go he has to be taken, whereas the older children have their own hockey fixtures and other forms of recreation. It is because of his natural hardness that the Junior usually survives all this well enough, but it is not a good preparation for the strains of puberty or for the making of good citizens.

Training in physical skill is the work of the Junior School, and it is surely time that this was more generally efficient. It is true that more stress has been laid on gymnastics and games of late, but one has only to watch boys and girls in their teens, and young men and women who have been through our Secondary Schools, standing in a bus queue, or sitting in a restaurant, to see that they know neither how to stand nor how to sit. The bent back and slouching attitude is characteristic of a lack of self-discipline and self-control.

We can use the Junior's love of physical activity and the appeal of rhythm to develop in him control, poise, and ease and grace of movement. The Junior's thoughts can often best find expression through the movements of his body. The ease and grace with which he can move his body has an important bearing on mental development, for it is with the same kind of orderly rhythm that a well-trained mind works. It would be a great thing to have on the staff of every Junior school some one who has taken a course of eurhythmics, for this is the most valuable form of physical culture at this age, for boys as well as for girls. We must train a body which is capable of controlling itself.

A sound education should aim at an efficient, calm, disciplined mind in perfect control of a body which wastes no energy in useless movement.

CHAPTER III

OBSERVATIONS ON THE INTELLECTUAL DEVELOPMENT OF CHILDREN BETWEEN 7 AND 11

REASONING

As against the notion that the power to reason does not develop until towards adolescence—a survival of faulty psychology—ample proof has been given by Susan Isaacs of the ability of little children to reason logically. Their reasoning does not take the form only of practical manipulation or perceptual judgment even at 3 or 4 years, although it always springs up from a practical or personal situation. From 7 onwards there is a gradually increasing emancipation of thought from these personal situations. Piaget connects the growth of verbal understanding, which he says appears in a genuine form about the age of 7 to 8, with the beginning of real social life. Up to 7, he tells us, children playing in groups do not interchange ideas; they soliloquize, not minding whether the others respond; they are completely egocentric, and take it for granted that others have their point of view; they cannot argue, they merely contradict. Susan Isaacs does not agree that children of 4 to 6 are incapable of argument, and this is borne out by many examples, but she does agree that the argument arises from a practical situation and that verbal thinking cannot yet be sustained in its own right.

The child of 7 seeks to adapt himself to others, and the possibility of differences of opinion and of different points of view is forced upon him. He is, within the limits of his experience, quite capable of finding a reasonable way of arriving at a desired conclusion. For example:

Miss N., 'Oh, what a pity, it is raining.'

Doreen (7), 'But you are not thinking of the little dried-up flowers, you are thinking of yourself.'

Miss N., 'You told me you want it to be fine when you go away next week. Who will you be thinking of then?'

Doreen, 'The little flowers, of course. If they have all this rain, they will be wanting some warm sun by then.'

An imaginative child thinks beyond the obvious solution to a problem. For instance:

John (7), 'I love mental arithmetic; we have such lovely sums, like this: "If a man walked three miles in one hour, how far would he walk in two hours?" And do you know, Mummie, all the little sillies said six.'

Mother, 'Well, what did you say, John?'

John, 'I thought he might have walked up a bit the second hour and done an extra mile, so I said seven.'

John brought the knowledge he had to the solution of his problem. It was not relevant to the solution, but that did not matter. No one had suggested that the man always walked at the same rate, and 'walking up a bit' was part of his experience.

It is possible for quite little children to perceive relations of space, time, similarity, contrast, number, quantity, etc., so long as the related items are simple and familiar.¹ It is not much before the mental age of 8 that the child spontaneously observes relations of space and number in Binet's picture tests, while temporal relations are noticed later, and causal relations later still—not, usually speaking, until 12. Whereas the Infant enumerates the objects, the Junior child is able to describe the picture, relating objects in it, although he is not capable of interpreting it. By 'interpreting' the picture Binet means not merely relating the objects with each other, but also perceiving the central motive and seeing the meaning of the picture as a whole. This the average Junior is unable to do.

¹ An account of the nature of reasoning has been set forth by Spearman in his book, *The Nature of Intelligence and the Principles of Cognition*, and this work has greatly influenced teaching methods.

Amongst my own children, whereas many of the tests involving memory for digits, words, vocabulary, reproduction of designs, etc., for the age of 11 were passed by children of 8 and 9, critical reasoning of the sort involved in the detection of absurdities balked all but the most intelligent. Few children with a mental age of 7 could point out the absurdity in the following, 'I know an easy road to town which is downhill all the way, and downhill all the way back', and a small percentage only could see the inconsequence of such a statement as 'I have three sisters, Alice, Mary and myself'. This agrees with the findings of Dr. Ballard, who has shown that even at 13, 40 per cent of the large number of children he tested failed to give the right answer to the following: 'Captain Cook made three voyages round the world. In one of these voyages he was killed by savages. Which voyage was it—the first, the second, or the third?' 'Interpretation' and 'logical criticism' then are not, generally speaking, within the scope of the Junior child. While it is good mental exercise, as well as good fun, for children to be given practice in detecting simple logical fallacies—and they do improve with practice—the appeals to reason which we so often make, involving subtle argument, are incapable of being intellectually grasped by them. The child begins to quibble because he does not follow the argument. He is perhaps capable of seeing the conclusion, but not of seeing the reasons for it. Hence it seems that in the Junior school more use should be made of inductive than of deductive reasoning. The nature work done by children of this age, for example, should largely be the making of observations, gathering of data out of doors, bringing them to the nature room, trying to form some kind of generalization, forming an hypothesis, testing the hypothesis, always on new first-hand material, if possible, and, if not, by getting help from books. The data must be such as can be collected fairly easily or the interest will not survive.

The following is an example of work of this nature done by children of 8 to 9 years. The problem given

was, 'What are the conditions necessary for the germination and growth of seeds?'

Data: The following seeds were kept under seven different conditions: bean, pea, wheat, maize.

1. In saucer in dark with no air, light or water.
2. In saucer with air and light, but no water.
3. In jar on damp blotting-paper: air and water but no light.
4. In jar on damp blotting-paper: air light and water.
5. In soil with light, air and no water.
6. In soil in dark, with air and water.
7. In soil with light, air and water.

Daily records were kept of each in the form of drawings and results were noted where necessary.

Results at the end of six weeks:

1. Had not begun to germinate.
2. Had not begun to germinate: shrivelled and hard.
3. Pale yellow seedlings; highest $6\frac{1}{2}$ in.
4. Pale green slender seedlings; highest 4 in.
5. Did not germinate—bean became slightly swollen.
6. Long slender pale seedlings, white stems and yellow leaves; highest $9\frac{1}{4}$ in., then began to shrivel up.
7. Sturdy seedlings, deep green leaves; highest $6\frac{3}{4}$ in.

The following tentative hypothesis was formed:

From what we have noticed about the seeds we have kept, the conditions necessary for growth appear to be: water, air and light. The seeds did grow without light, but they did not look healthy. They did germinate without earth, but did not continue to grow. The best results were obtained from the seeds given water, air, light and soil.

This hypothesis was further tested by experiment with seeds collected from garden flowers: poppy, antirrhinum,

nasturtium, and lupin. Much the same results were obtained.

Conclusion: For healthy growth, seeds require air, light, water and soil.

The same method of inductive reasoning may be adopted in connexion with geography. Children found, for example, different kinds of soil in one neighbourhood and that certain wild plants were found growing on particular types of soil while others were not. This problem was set: Prove as far as you can from data you can collect that soil affects vegetation.

This kind of work undoubtedly helps children to think for themselves rather than accept just what they are told.

Alison (9) (looking up suddenly from reading *Tales from the Eddas*), 'Oh, I see. It seems to be the kind of country people live in that gives them their idea of the gods they believe in. These people had giants like icebergs, and the Greeks had hunting gods without clothes on because it is hot in Greece. I suppose that is why I always picture God wearing flannels in the summer.'

In the following we see the result of reasoning from insufficient or faulty knowledge which often characterizes Junior arguments:

C. (8) (looking at a picture), 'This man is going mountain climbing, so he has put on thick clothes.'

F. (7), 'It's not colder up mountains, it's hotter, so why does he put on more clothes?'

C., 'It isn't hotter, how can it be?'

K. (8), 'Because you are nearer the sun.'

M. (8), 'It isn't that, it's because hot air rises.'

C., 'Well, anyway, it's colder, because there's snow on mountains.'

M., 'I know, but I can't understand it, because I know hot air rises.'

(At this point the teacher intervened, to give the necessary explanation.)

And here is a case of the wrong point of view:

Mary (9), 'All poets seem to die young. I wonder why they die so soon?'

Jeannie (9), 'Why, because they were born sooner, of course.'

The following debates by children in different groups of the Junior School will illustrate some of the essential differences in reasoning between children of 8 to 9 and those of 11 to 12. This interesting series of debates arose accidentally, as valuable things often do. I overheard rather a heated discussion on the subject of hunting one day, and suggested that the subject might be discussed in class, and that arguments for or against should be prepared. This led to debates on many other subjects, and time was allowed once a week. A number of the children in Group IV had lived in India, and the subject suggested was 'Living Abroad v. Living in England'.

Living Abroad v. Living in England. (Ages 11 to 12)

A., 'I think that living abroad is far preferable to living in dull, smoky England, where you are never sure what the weather is going to be. I dislike all northern Europe because it is so dull and unexciting. Think of Egypt and the Pyramids, India and her many different old customs, of the bright Mediterranean Sea for the lazy, of dark Africa for those who love adventures! Of exciting North America for those who love Red Indians! . . .'

B., 'Ah, but think of England, the centre of civilization, the mother of many colonies, linked up with half the world! If you live here, you feel that you are *part* of her. Australians, even, talk of her as "home". I think, *A.*, that you are very unpatriotic.'

A., 'I prefer the exciting Orient, "Sunny Palestine", and India with her old secrets, and many tongues. What about fortune-tellers and snake-charmers . . .'

B., 'If you want fortune-tellers, which I do not, there are plenty of gipsies in England, and think of the poisonous snakes abroad. You hear of thousands of people killed every year from snakebite.'

A., 'But in England there are adders.'

B., 'True, but they are not so numerous, or so venomous, and in America there are wolves, in India and Africa lions and tigers. Besides, England's climate is far preferable to that of the hot East and cold North, and think of the terrible fevers you get abroad sometimes.'

A., 'You can usually ward them off with quinine, and, at any rate, what about typhoid in England?'

B., 'You don't get that nearly so much as malaria and cholera in India. I, though, prefer England for every respect.'

A., 'I like to live in the East and learn old languages and have exciting adventures.'

B., 'And I like to live in England because she is home.'

Chairman, 'We now close the debate. I think both sides have been equally convincing.'

A debate on the same subject in Lower II, between Pat, aged 9, who has lived in India, and Heather, aged 8½, was taken down verbatim:

P., 'It is better to live in India because there are the beautiful Shalimar gardens.'

H., 'But we have the large parks.'

P., 'You haven't lovely fountains.'

H., 'There are fountains in London quite good enough for me.'

P., 'It is so hot we can play in bathing-suits, and we can have picnics when we like.'

H., 'It is sometimes hot in England, and besides India

would be too stuffy for me. You can't get a cool breeze at night even.'

P., 'When it is too hot we go up to the hills. You can't go to the hills every year in England.'

H., 'No, we go to the seaside.'

P., 'Hills in England are like molehills compared with ours.'

H., 'I don't mind small hills, they are just as good to climb, besides you can run up and roll down.'

P., 'You don't have such lovely brightly coloured birds.'

H., 'And we don't have so many insects either. We don't have to sleep under mosquito-nets in England.'

The Class, 'Oh, that's good. You can't answer that, Pat.'

P., 'When you want oranges, you have to buy them from the shops. We just pick them.'

H., 'When we want strawberries we pick them from our garden. When you want them, you can't have them.'

The vote was for life in England.

It will be noticed that the younger children are more personal, arguing only from their own experience: 'We can have picnics when we like', 'Because there are the beautiful Shalimar gardens', while the children of 11 to 12 are more general. Instead of keeping to one personal particular, however, they can develop a general point, e.g., the idea of patriotism: 'Think of England, the centre of civilization, mother of many colonies, you feel you are part of her . . . Australians even talk of her as home.' We can see the child drawing on her knowledge and organizing it for a purpose, just as any intelligent adult would do.

MEMORY

The older methods of teaching in the Junior School were partly based on the erroneous assumption that one of the distinguishing characteristics of the child between 7 and 11 was his well-developed mechanical memory. This

was the time to encourage learning by rote since the faculty of reasoning was as yet undeveloped. Therefore poems, passages from the Bible, dates, tables, lists of capes and bays, and rivers, etc., all had to be memorized even if they had no meaning for the child, whose place in the class largely depended on mechanical memory. Most ingenious mnemonic aids were often employed. Although methods have changed, the idea is still widely popular that mechanical memory excels at the Junior stage.

About four years ago I tested children of 7, 9, 10 and 14, ten children in each age group, for memory for: (1) digits, (2) a poem, (3) 12 objects shown for two minutes, (4) 12 sounds, e.g., clapping, knocking, tearing, etc., and the results of this test of immediate memory are given below:

	Age.	Av. No. recalled out of 12.
1. <i>Digits</i> —10 double numbers on a card were shown for one minute	7	4
	9	6
	10	8
	14	9
	Age.	Av. No. of lines recalled.
2. <i>Poem</i> —10 lines were shown for ten minutes	7	3
	9	8
	10	8
	14	10
	Age.	Av. No. recalled.
3. <i>12 Objects</i>	7	6
	9	8
	10	10
	14	12
	Age.	Av. No. recalled.
4. <i>12 Sounds</i>	7	3
	9	7
	10	10
	14	9

The memory of the younger children in each case was inferior to that of older children, but this refers only to what has been called 'short' or 'immediate' memory, and depends largely on the power of attention.

A week later all the children were asked to write the poem that had been learnt, and the ten-year-old and fourteen-year-old children were able to do this correctly. The seven-year-olds recorded only an average of 2 correct lines and the nine-year-old children 6 lines. The fourteen-year-olds had forgotten nothing, while the ten-year-olds were able to recall the whole poem instead of only eight lines. In 'long distance' or 'delayed' memory, thus, the older children are again superior.

The results of this test serve only to illustrate the relative increase of the power to memorize, aurally and visually, of children of these ages. The test was not arranged carefully enough, and there are too many extraneous factors for it to be of more than illustrative value. The following is a summary of the findings of psychologists who have recently investigated the subject of mechanical memory:

1. The greatest relative increase of immediate memory occurs between 10 and 12 years of age. (Lobsien.)¹
2. There is feeble memory for emotional terms under 13. (Netschajeff and Lobsien.)¹
3. Children of good physique are generally good memorizers, i.e., good physique and good memory show high correlation. (Netschajeff and Meumann.)¹
4. The child's retentive power for number is greatest about 10 to 11. (*Brit. Journ. of Ed. Psych.*, vol. V., p. 240.)
5. Obliviscence is slower in children than in adults. (Dr. Ballard, 'Obliviscence and Reminiscence,' *Brit. Journ. of Psych.*, Mon., Sept.)
6. There is a positive correlation in rote memory, between learning capacity and retentive capacity.

¹ These three conclusions are given by Rusk, *Exp. Ed.*, 1934, pp. 85, 86, 88.

7. The greatest increase for visual memory is between 8 and 11½, but the increase is fairly constant till after 14.

Auditory memory increases rapidly from 9½ to 10½, and again after 12.

8. Smedley makes a statement, based on his Chicago results, that 'there is no "memory period", no period in early school life when the memory is stronger than it is at any other later stage of the child's life'.

From the above conclusions, the following implications may be made:

1. That if the child's retentive power for number reaches its height at 10 to 11, 'the difficulty which young children experience with Arithmetic may be partly due to late development of memory for numbers'.¹

2. The feeble response to emotional effects shown by weak memory for emotional terms should be taken into account in 'moral instruction' for children under 13.

It is quite true that little children enjoy mechanical repetition, because it is rhythmical, and advantage may be taken of this fact; but at the same time the more intelligent process of logical memory should not be overlooked. The learning of the multiplication tables, for example, should first be the work of reasoning, for, when the process is understood, e.g., that 'twice times' is an addition of twos, logical memory will give a meaning to what is memorized mechanically. This is surely a more intelligent way of learning.

A confusion is often made between what Bergson calls 'habit memory', and 'pure memory', i.e., the reproductive memory for something that has been definitely learned, viz., a poem, tables, dates, etc., as against recalling memory for things which have happened in his personal past time perspective. Parents, for example, say, 'I cannot understand why John cannot remember his tables, he has always

¹ Rusk, *Exp. Ed.*, 1934, p. 88.

had such a good memory. He remembers places he has been to better than I do.' This again calls for the distinction between special memories. There is no such functional unit as *Memory*, as such, any more than there is a single power of attention; rather, there are specific *memories* for different types of material; for example, memories for sounds, numbers, emotions, ideas, etc. Investigations on these special memories were undertaken by the two Russian psychologists mentioned above: Netschajeff and Lobsien. Apart from the important conclusions already quoted, the most significant of their findings for our study of the Junior period is the difference in development of the various forms of memory.

1. 'Girls possess a stronger memory for numbers and words, but boys for objects.' (Netschajeff.)
2. Boys think more abstractly—girls use concrete imagery.

Lewis, an English educationist, experimented with children of 8, 10 and 12. He found that nonsense material and sense material were memorized equally well, and that the fact that mere rote memory was concerned in learning of the nonsense words did not prove there to be any special endowment of mechanical memory for unintelligible material in the child of Junior age. Lewis shows that efficiency in memory work depends mostly on the understanding of the significance of the matter to be learned, and advises that more time be spent in presentation of matter to younger children, and less in mechanical repetition.

ATTENTION

It is necessary again to draw attention to the looseness of the popular term 'attention'. The aim of the teacher in a class lesson is to gain the 'attention' of all the children. In the *Pedagogical Seminary*, vol. X, June 1903, Norman Triplett reported an inquiry into 'What do teachers consider the worst faults in their children?' The replies

showed that the first and foremost fault was held to be 'inattention, and lack of application'! More recent work has shown that there is no simple, unanalysable power of attention; therefore attention as a simple function cannot be trained. 'Attention in the visual field', says Arnold,¹ 'is something different from attention in the auditory field, and the same is true of attention in the tactile sphere. We cannot be said to possess any distinct and separate power of attention. In short, we have a number of attentions, and not a single power of attention.'

A great deal of work has been done recently by psychologists on one or another aspect of the process of attention, e.g., the concentration, intensity, range, span, distribution and duration, as well as the individual differences that exist in the power to attend to different types of material.

The accounts of the various tests may not make particularly interesting reading for the Junior teacher, but the results often throw light on school practice. Of special significance for us as Junior teachers are the psychologists' answers to such questions as the following:

1. How can we gain and keep children's attention?
2. How long can the child be expected to attend voluntarily to a given lesson?
3. How do you account for a child's great concentration on some occasions, and his lack of concentration on others?

Careful study of the work on attention by Baldwin,² Myers,³ Munsterberg,⁴ Pillsbury,⁵ Wheeler,⁶ and Arnold,⁷ and others, and careful observation of Junior children suggests that the chief conclusions are these:

1. Children's attention is of the sensuous rather than

¹ *Attention and Interest.*

² *Mental Development in the Child and the Race.*

³ *Text-Book of Exp. Psych.*

⁴ *Psychology and Industrial Efficiency.*

⁵ *Attention.*

⁶ *The Laws of Human Nature.*

⁷ *Attention and Interest.*

the intellectual type. That is to say, it is directed to objects of perception and not to ideas or beliefs. We can, therefore, gain attention only by presenting the child with material which is concrete enough for him to perceive.

The child in the first years of the Junior period is unable to maintain sustained attention by an effort of will, and so devises his own ways of protecting himself from mental fatigue. There are many things in the environment which demand involuntary attention (that is spontaneous, and not voluntarily directed, attention), and these act as disturbing influences when interest begins to wane, so that the children become fidgety. Such things are changes in the usual environment, sudden loud noises, a bright light, a feeling of cold or heat or of hunger, etc. The length of time a child of 7 or 8 is able to concentrate voluntarily is very short, although it increases gradually up to 11; but if we can gain attention through an appeal to some interest, then present the facts we wish to teach briefly and clearly, we shall find children of this age capable of intense concentration for a short time. We have found, however, long periods of voluntary attention on the occasions when the child himself has brought a problem or a question demanding the following of careful steps in reasoning, a fairly long explanation or demonstration, e.g., 'I wish you would explain how the thermometer works' (8 years); 'Will you show me how to find out how many seconds I have lived?' (9 years). The longest periods of all are when the child is solving his own problem.

2. Most educational psychologists agree that the interest of a child under 10 is exhausted long before his capacity for mental or physical activity. We find a half-finished story, a half-built house or boat, odd pieces of unfinished knitting lying about. One of the most important tasks of the Junior School is to train in good work habits. We must try to help children not to begin things with enthusiasm and then drop them directly the interest begins to wane. Sometimes it is necessary to make intermediate goals if the end is too remote, but it is the business of the teacher to

demand the maximum amount which the individual child is capable of doing in a given time, and not to accept unfinished or badly finished work. Encouragement and help must be given in difficult places, and sometimes a new motive for speeding up must be supplied from outside if the work is becoming monotonous. For example: a group of children had written a play and insisted on making their own costumes. They chose materials and cut out eagerly, but the seams were long and tiresome and they began to want to slack off. It was necessary for the teacher to call a dress rehearsal for two days later in order to give a fresh impetus. An alternative would have been to begin scene-painting and to go back to the dressmaking with a time limit for finishing—after an interval. Children must be encouraged to finish what they undertake, and often during the Junior stage an external compulsion may be useful. The strength of the feeling of defeat experienced in failing to accomplish a task is in some ways a measure of strength of will.

Work which necessitates the use of the fine muscles of the eye in reading, and of the fingers in writing, should not be prolonged. The boredom or the fidgety habits of a child confined to a sitting position for a long period is a natural and proper reaction against physical strain. Short, intense periods of memory drill in tables, spelling, etc., and short periods, e.g., 10 or 15 minutes at 7 to 8, to half an hour at 10 to 11, of drill work in arithmetic may be given, but not more. During this time, however, the child should be expected to work up to his capacity. This does not mean to suggest a division of the day into short 'periods', nor that a longer time should not be spent on arithmetic. A long time may be spent in practical weighing and measuring, in shopping and making of bills, in the 'worrying out of a problem', which some children can treat in the same way as a puzzle and refuse to give up till they have found a solution. But this work in itself demands change and movement; the drill work demands concentration in one direction. Physical activity is important at the Junior

stage; the periods of purely intellectual activity should be short. If we prolong them there is a twofold danger of physical strain and of inability to concentrate, since if too great a strain is put upon attention, it becomes diffuse and easily distracted. Bad working habits may then be formed.

3. Even young children appear to concentrate for long periods of time on their play. A child of 3 may spend over an hour fitting pegs into sockets and taking them out again. Juniors of 7 and 8 will dress and undress dolls, paint pictures, knit and sew literally for hours at a time on wet days. Why is it, then, that the child who shows ability to concentrate in play cannot concentrate in school? It seems obvious to say that he concentrates when he is interested in what he is doing; directly he loses interest he no longer attends. A boy of 9 who was reported to be very lacking in concentration, and a great trouble to his teachers, was sorting stamps for his album one day in the vacation and I was working in the same room. When he had been sitting over his occupation for two hours I asked whether he was more interested in stamps than in lessons at school. He replied that he was just as interested in most of the lessons. Why then, I inquired, was he so fidgety and badly behaved? 'It is sitting still for so long that I don't like.' I reminded him that he had scarcely moved for two hours. His reply was enlightening: 'Oh, well, it isn't that I really *want* to move, but I must know that I *can* move if I want to; otherwise I feel imprisoned and want to kick everything out of the way.' A child at play is perfectly free, and the free child imposes restraint upon himself. Hence in a class-room where children know that they are allowed to move about freely if necessary while they pursue their work, we find greater and not less concentration on the work they are doing. In such a room the children's 'worst fault' will not be 'lack of application'.

CHAPTER IV

CHILDREN'S QUESTIONS

If activity is a characteristic of the Junior child, so also is curiosity. The directions of children's curiosity at different stages of their development furnish us with the most valuable material for study.

With the help of parents and teachers, I gathered, over a period of three years, the spontaneous questions of 64 boys and 120 girls between the ages of 7 and 11. The questions were then classified according to the nine most common subjects, and the following table gives the percentage of boys and girls who asked questions on each subject.

The number of observations is sufficient only to give a general indication of the type of questions children ask.

Subject of Questions

Age	The Supernatural		Birth and Reproduction		The Universe	
	Boys	Girls	Boys	Girls	Boys	Girls
7-9	15%	34%	20%	30%	25%	10%
9-10	20%	14%	—	25%	90%	41%
10-11	15%	8%	—	9%	52%	50%

Age	Human Origin and Destiny		Objects in Everyday Use		Natural Phenomena	
	Boys	Girls	Boys	Girls	Boys	Girls
7-9	—	10%	40%	31%	50%	23%
9-10	48%	50%	95%	32%	40%	34%
10-11	—	55%	50%	11%	40%	58%

Age	Animals		Other Lands and People		Other Questions	
	Boys	Girls	Boys	Girls	Boys	Girls
7-9	5%	18%	—	—	20%	52%
9-10	20%	32%	—	18%	30%	51%
10-11	10%	20%	12%	25%	30%	40%

The questions here considered are only those which appear to have arisen spontaneously, although they must of course have been modified and influenced by some present or past stimulus, some interest aroused by grown-up's conversation, something heard in school or something read, and so on. But questions which have been directly stimulated by a present object have not been considered, e.g., a boy of almost any age looking at a motor-car will ask questions about it. The actual question will vary with age, but will not show the trend of interest in the same way as such a question as 'Is it right of Sir Malcolm Campbell to risk his life in order to make record-breaking feats, and to advertise his country's engines?' which was asked by an eleven-year-old, and 'What is the most powerful engine in the market, so far?' asked by a seven-year-old boy without the stimulus of the presence of a car.

Special points of interest with regard to the subject of the questions are:

1. The same question in almost the same words is asked again and again by children of the same age. E.g., 'Who made God?' accounts for as many as 23 per cent of questions concerning the supernatural, asked by boys, and 21 per cent of those asked by girls. (Cf. younger children's questions on this subject from Piaget.) 'How does sound travel?' 'What makes the thunder and lightning?' 'What is electricity?' are typical often-repeated questions of the period 8 to 10.

2. A large percentage of questions concern natural phenomena and the universe, and suggest that the Junior child's interests are largely the interests of primitive man. He is up against natural forces when he tries to rig his tent, sail his boat, fly his kite or carry out any of the out-of-door pursuits that appeal particularly to this period. The clouds and rain, the thunder and lightning, fire and water are not now accepted as loud noises or bright lights or merely invested with qualities of wet or dry. The seven-year-old asks, 'What makes the clouds?' 'How does the rainbow

come?' 'How do trees and flowers grow?' 'What is the sun?' Boys of 9 to 10 ask, 'How are earthquakes caused?' 'Where does electricity come from?' 'How does fire burn things?' 'How does sound travel?' An eleven-year-old girl asks, 'How is it we grow without either feeling it, or knowing it?'

Typical questions of the later Junior period concerning natural phenomena are, 'What causes a meteor to fall?' 'Is river water flowing into the sea turned into salt water?' and numerous questions about fire and water.

'How heavy is the nucleus of an atom?' asks one boy.

Some Questions concerning the Universe

The following questions, to be regarded as typical, must have been asked at least 5 per cent times, and are given here in order of frequency:

7 to 8 years

- 'What is the sky made of?'
- 'How big is the sun?'
- 'How many stars in the universe?'
- 'How does the earth move?'
- 'Why doesn't the earth fall down?'

9 to 10 years

- 'What is outside the world?'
- 'What started the world going round?'
- 'What is at the bottom of the earth?'
- 'Why is the moon so dead and cold?'
- 'How does the moon keep up in the sky?'
- 'Why doesn't the sun go out since it has nothing to burn?'

10 to 11 years

- 'Are there people living on Mars?'
- 'Do people live on the moon and Mars?'
- 'How many stars are there in the sky?'
- 'What is in the middle of the earth?'

'What is the sun composed of?'

'How heavy is the world?'

'Is the world the exact shape we think it is?'

'Why does the world keep going round at the same speed?'

3. *Objects in Everyday Use*

A very large percentage of questions concern what I have called objects in everyday use. This interest in the why and wherefore of things they use is marked in children of 8 to 10. I once invited a class of this age to choose the subject of their lesson on one period in the week and their unanimous choice was, 'The origin of everything in the room'.

Boys' questions include:

'Who made the first telescope, bicycle, train, microscope, airship, wireless?'

'How is gas made?'

'How does a refrigerator work?'

'How does a magnet draw things along?'

'What is electroplating?'

'What are iron, lead, paint, chalk, marble, etc.?''

'How does the wireless pick up a programme when there are no wires?'

Girls have asked:

'Tell me about the first schools.'

'Who invented books?'

'How is electric power made?'

'What are glass, paper, bricks, elastic, etc.?''

'Who invented X-ray?'

'Why does a candle go out when you blow?'

4. *Human Origin and Destiny*

A fact worthy of notice is the absence of questions about human origin and destiny on the part of boys, except those between 9 and 10, when nearly half the boys and over half

of the girls of that age of whom records have been kept have asked questions on this subject. This may of course be accidental, since with so small a number as is recorded here, results may be due to chance. It must be repeated that only a general indication of the trend of interest is given, but the similarity of the questions is again striking and the general results are very much in agreement with my personal experience. The only recorded questions of children between 7 and 9 are:

'What will happen to me when I die?'

'Did I live anywhere before I came here?'

'Where was I before I was born?'

'Were Adam and Eve really the first people on the earth?'

'What is Heaven like?' and other questions about Heaven.

A poignant question asked by an intelligent girl whose mother is a biologist is this: 'Mummie says everything started with a lump of jelly—other people tell me God made Adam and Eve. Now I don't see how the Adam and Eve story and the jelly story can both be true. Which is?'

The questions of ten-year-old children are less personal, and more general than those of the seven- to nine-year-olds:

'Is there such a place as Hell?'

'Where is Heaven?'

'Is Heaven in, or up above the sky?'

'Where do people come from?'

'Who was the first man on earth?'

'If men were once apes, will the great-great-great-grandchildren of the apes now living be any nearer men?'

The last question, asked by a girl of 10+ with a high I.Q. is, I consider, more advanced than the general run of questions of Junior children on this subject. Stanley Hall found fewer questions on the origin of life after the age of 8.¹

¹ *Aspects of Child Life and Education.*

5. *Birth and Reproduction.*

Another interesting fact is that the subject of birth and reproduction has provoked no questions on the part of boys of 9 to 11, and only accounts for 9 per cent of those asked by girls of 10 to 11. This may be due to either of the following facts;

(a) That children's questions on this subject are satisfied at an earlier age. My experience agrees with that of Susan Isaacs, that much curiosity in these subjects is displayed by children of 3 to 5.

(b) There may be interest, but a certain reticence in asking questions, on the part of boys, particularly of over 9.

(c) The questions on this subject are usually stimulated by the arrival of a baby brother or sister, and this more generally occurs when children are under, rather than over, 9.

A little girl of 7 who had a large imaginary family and was constantly increasing its numbers announced one day, 'I have another baby now, and do you know I just got to the door in time to see it born.' 'Don't be silly,' retorted an older sister. 'You couldn't just *get* there to *see* it born', which led to the question, 'Mummie, why can't you *see* babies being born?' Pat, aged 7, thought that being born in India made her Indian, and could not understand why she was not black like other Indians. The majority of questions of children over 7 or 8 are those concerning the part of the father in marriage and in reproduction, e.g., 'Could we get a baby without Daddy?' 'Why must we have the male guinea pig if it is the mother that has the babies?' and the like.

With regard to the numerous questions about animals, many of those asked by children of 10 to 11 were concerned with animal communication, e.g., 'Can animals talk to one another?' 'Have dogs any way of letting each other know

their ideas?' 'Is there an animal language?' 'Is there cat talk and dog talk?' 'Can dogs understand cats or other animals or only each other?' 'Can the lower animals communicate with one another?' Also, 'Why do animals live shorter lives than people?' 'What made prehistoric animals die out?'

Questions on the supernatural are more definitely either concerned with fairies or angels, spirits or ghosts, or with questions about God, than those of younger children who tend to confuse angels and fairies. The Junior child generally states, 'I don't believe in fairies', just as he likes to assume a disbelief in Father Christmas, or he occasionally affirms, 'I do believe in fairies whatever any one says', and less frequently questions grown-ups about it. Girls are more interested in fairies on the whole than boys, but one boy of 8 was unhappy about going to his Preparatory School because he feared the other boys' finding out that he believed in fairies.

Questions of time seem to begin to puzzle children of 7 and 8 and they ask, 'How can you possibly think of ever and ever—for time must have an end?' I have not heard or seen any record of questions of this kind earlier than the age of 7, but have frequently been questioned by nine-year-old children about the difficulties of time, 'Why does time sometimes go quickly and sometimes go slowly?' 'Does time really go more slowly when you watch a kettle boil?' 'What is time?' 'Why do we have hours and minutes?' 'Does time belong to the earth or to the other worlds as well?' 'What was time before the world was made?'

Amongst the unclassified questions I found a large number dealing with the question of war. For example, 'Will there be another war?'¹ 'Who do you think will win the next war?' 'In the next war will Germany fight us or will she be on our side?' 'Do you think the next war will come in my lifetime?' 'Shall we all be smashed up in the next war?' 'Why do people kill each other?' Many of these war questions came from children in one particular suburb

¹ This was written before the recent wars in Abyssinia and Spain.

of London, and on investigation I found that in this district a number of posters decorated the hoardings with lurid pictures of bombs and aeroplanes and destruction, illustrating a series of articles in some magazine, entitled *The Next War*. This evidently accounted for the concern of children under 11 about future war.

The form of the question of the Junior child differs somewhat from that of the four- to six-year-old. 'What' and 'Why' are universal, but whereas the four- and five-year-old will ask, 'What is this?' the Junior child asks, 'What is this for?' 'How many?' and 'How much?' are also typical questions. The child of 4 or 5 will continue to ask 'Why?' 'Why?' and to every answer another 'Why?' but the Junior child is more interested in the information he gets and less in the asking of questions for its own sake. He generally says quite definitely, 'What I want to know is . . .'

I have attempted in the foregoing merely to collect and classify, and give some illustrations of typical questions asked by Junior boys and girls of average intelligence. No attempt has been made to deal with the answering of questions, but when we know the kind of things that puzzle a large number of children we have a guide to the means of approach to many subjects. If we take these questions as an average sample of the kind of thing Juniors want to know, how far is the usual curriculum likely to satisfy this need for information? We teach children so much that they do not want to know, while they are left to pick up incidentally and usually outside school the answers to things that really puzzle their inquiring minds.

One of the most popular courses of first lessons in geography, for example, is a course of detailed description of life in other lands—Eskimos, Lapps, Pygmies, Steppedwellers, etc., and yet not one spontaneous question was asked in this group of children about other lands or people by girls or boys between 7 and 9, and 18 per cent only by girls between 9 and 10, while 50 per cent of the boys of 7 to 9 asked questions dealing with natural phenomena. The

combined consideration of these questions on natural phenomena and on objects in everyday use—the two greatest subjects of inquiry—might result in such active work as the making of a simple barometer, thermometer, weather vane, etc., at a younger age than is usual, perhaps at $9\frac{1}{2}$ or 10, and the geographical work arising from this would be of great value. Geography and science would certainly be higher in the list of favourite subjects if we annexed constructive work and satisfied the desire for knowledge that the children want. After considering these questions I revised the geography syllabus for groups III and IV and gave definite lessons on the shape and movements of the earth—the relation of the earth to the other planets, on lines of latitude and longitude, etc.—and found the children showed a great interest in this, although I remembered finding it dull at the age of 9. But then it was simply something to be learnt out of a book.

History as it is generally taught might as well be left out of the Junior curriculum; it does not satisfy the children's desires for creative activity. Stories of heroes, of course, are welcome, but much of the effort we make to get children at this stage to trace a sequence of events in time is wasted. Cause and effect over a period of time is something the Junior cannot grasp. A history of inventions—the story of the things they use traced back to their crude beginnings—is something that does appeal to the Junior child, and this is made evident by the number of questions asked on this subject.

No one parent or teacher can hope to supply a child with answers to all his questions. It is neither desirable that the child should think that grown-ups know everything, nor that he should always have his curiosity too easily satisfied. In showing a child how to solve his problems himself, and in leading him to a reliable source of information, we are doing him a great service. How to dip into a book for information he wants, and how to use an encyclopaedia and other books for reference should be an essential part of the education of the Junior child.

CHAPTER V
OBSERVATIONS ON THE AESTHETIC
DEVELOPMENT OF CHILDREN BETWEEN
7 AND 11

DURING the Kindergarten and Infant School period the child's willingness to create far outshines his power to appreciate. He will often quite contentedly sing his nursery rhymes and songs without regard for time or tune, for he does not know his time and tune are at fault. He will quite readily undertake to draw Daddy digging in the garden or himself feeding the elephants at the Zoo, without the least concern that no one but himself will appreciate the the subject of his drawing. He gets his pleasure in the activity with little regard for results. It is true, however, that a child of five who draws the usual schematic circles with sticks for arms and legs and calls it a man *does* see the difference between his 'man' and a more skilled picture. He knows his symbolic figure is not a picture, but it simply represents man for him, since it portrays the characteristics of man—namely, body, head, legs, arms and often in addition fingers, hat and buttons. For example, D., who was just four, loved looking at pictures and making up stories about them. She also liked drawing 'men' and 'houses'. She asked me to draw a man for her to illustrate a story I was telling and I picked up one of her drawings and said, 'Here is the man.' 'Oh, no,' she replied. 'I want a proper one, a picture one; that is just my man.'

A little boy exclaimed after his first day in the Kindergarten, 'They really don't know much at that school. I drew an *awful* horse and the teacher said, "That *is* nice."' The Junior child begins to be more critical, and as a result gradually becomes more selfconscious about his ability. The seven-year-old will draw people in the same schematic way as the younger child but with greater detail because

he knows more. It is not a question of observation, for he draws what he knows, not what he sees, accentuating what has significance for him.

There comes a time when the child's power of criticism excels his power of achievement, and then he will not attempt what he thinks he cannot execute to his satisfaction. This usually occurs in the first years of the Junior period. It is here that encouragement, suggestion and help with technique is required.

A collection was made of spontaneous drawings and pictures done by Junior children at High March in response to 'Draw me anything you like'. The subjects chosen may be of some interest here. There were forty girls and twenty-three boys. Each child submitted three drawings, on three different occasions, so that there were 189 drawings in all. The following table shows the percentage of drawings produced on each subject:

Girls

<i>Subject</i>	<i>Age</i>		
	7-8	8-10	10-11
People (schematic, as those done by Infants)	15	2	—
People (not schematic)	4	1	10
Animals	10	14	18
Children in action	15	21	18
Houses	20	17	0
Flowers in vases	—	5	—
Pictures with definite subjects (e.g., a crowd watching a boat race, a picnic, a washing day, etc.)	8	19	34
Landscapes and seascapes	3	1	10
Trees	—	—	2
Common objects (mainly things in the room: clock, blackboard, etc.)	9	2	—
Imaginative drawings—fairies, etc.	10	—	2
Pure design	—	7	6
Mechanical drawings—boats and aeroplanes	6	11	—

Boys

<i>Subject</i>	<i>Age</i>	
	7-9	9-11
Mechanical drawings (cars, trains, ships, aeroplanes)	49	63
Houses	24	15
Conventional patterns	8	13
Animals	9	4
Pictures with definite subjects	10	5

The small number of cases taken here, with environmental limitations, again makes these results statistically of little importance, but they are nevertheless interesting from several points of view. It will be seen that the boys showed less originality and less variety of subjects.

The children were allowed choice of media, and whereas all the girls with the exception of two made coloured pictures, using either water colours, crayons or pastels, thirteen of the boys used pencil and six pen and ink. This seems to agree with the findings of Meumann that girls show more appreciation for colour and boys for form. The two girls who did pencil drawings were of unusually high intelligence, I.Q. 130 and I.Q. 145 respectively. The Junior child is interested in drawing people and houses in the earlier stage: at 8 to 10 drawings are more 'matter-of-fact'. There is an increase in pictures with a definite subject—the majority of the drawings of children of 10 to 11 being in this class.

Tests which have attempted to show the aesthetic appreciation of children for pictures have been given by Meumann, Müller, Dehning and others, but these have no direct bearing on the aesthetic development of the Junior child; the majority emphasize individual differences of perceptive type, etc. The most important result for our consideration is the fact that children much under 10 years are concerned with the content of the picture rather than with the elements of artistic representation. They are incapable of judging the artistic merit, but always describe the subject of the picture. This is generally borne out by

my experience in the Junior School, but it depends very much on the cultural background of the children. For instance, I showed two pictures to forty-eight children between 7 and 11 and asked for their judgments on the relative merits of the two:

The first—'Flatford Mill'—we will call A.

The second—'The Blind Girl'—we will call B.

Some of the reasons given for preference throw light on the aesthetic judgments for pictures by children of these ages. A was preferred by 85 per cent of the children of 8 years; by 63 per cent of 9 to 10 years; by 80 per cent of 10 to 11 years; 40 per cent of 11 to 12 years. This suggests that the picture with strong emotional tone appealed most to the elder children, and that, except in the case of those of 11 to 12, the more matter-of-fact scene appeals far more strongly to Juniors. The younger children often described the content of the picture, e.g., 'I like it because there is so much in it.' 'There is a horse and a hay-cart being pulled across the stream.'

These children have had much opportunity for looking at good pictures in their homes and in school, and it is interesting to see that the majority, in making comparisons of the two, made general appreciative statements of the idea of the picture as a whole. Adjectives were employed to express the feeling tone, e.g., 'A is a happier and prettier picture' (8); 'The people in the picture look so happy' (8); 'A has more liveliness in it' (9); 'B is more gentle' (9); 'B is so sweet, and yet sad' (9); 'I like B because it is such a moving picture' (9); 'B is a nice picture because the girl looks so sweet and kind, and very happy although she is blind' (9); 'A is such a beautiful picture' (9); 'A is a prettier picture than B—the woods look so effective in the background' (9). Appreciation of the picture as a work of art apart from the actual subject is noticeable only in the children over 10, e.g., 'The scene of A is interesting; the picture has a lot of detail and you can imagine it happening' (10); 'A is my favourite picture because of the design and the way things are placed, the shading and colouring;

the whole design counts in pictures' ($10\frac{3}{4}$); 'A is old-fashioned and gives you an idea of the country' ($10\frac{1}{2}$); 'I like A because I like the quiet country idea it gives—a sort of going home after a day's work to sit down and discuss the day' ($11\frac{1}{2}$); 'B is more interesting than A, it cleverly shows the feeling of the blind girl' ($11\frac{3}{4}$).

From time to time one or two reproductions of pictures of the same general type or by the same artist are put up in the art room. The children's casual comments on these show that:

- (1) On the whole coloured pictures are preferred to uncoloured.
- (2) 'Classical' pictures, e.g. 'Mona Lisa', 'The Laughing Cavalier', etc., are not much appreciated by Juniors.
- (3) Landscapes and portraits are less appreciated than pictures depicting more action.
- (4) Pictures of animals are much appreciated.
- (5) Realistic pictures of children, e.g., those by Margaret Tarrant, are very popular. It is partly their dainty colouring that makes these appeal.
- (6) The more imaginative children showed much appreciation of Dulac and Arthur Rackham.

MUSIC

Lichtenberger¹ has investigated the preferences which children of various ages show for melody and rhythm, and has found that the difference in the emotional effects of melody and rhythm is not marked in seven- and eight-year-old children. Nine-year-old children, however, show a definite power of discrimination, and continuous rhythm seems to have more emotional value than melody. Miss Perkins found with children at High March:

- (1) That melody was appreciated more by the children of 11+ than by the younger Juniors, who preferred rhythm.

¹ See Rusk, *Exp. Ed.*, p. 140.

- (2) That children of 7 to 9 showed great enjoyment for folk-songs with definite rhythmic action, e.g., 'Dashing away with the Smoothing Iron', and repetitive songs, e.g., 'The Tree and the Wood', 'The Farm-yard', etc.
- (3) That children who have had a musical training from the Kindergarten onwards show a preference for concords before discords as early as 6 or 7, and that by the age of 9 a great interest in chords is shown.
- (4) That girls of 7 to 9 prefer major to minor key, and that on an average the minor is preferred before the major by those over 9, although there are of course individual differences.
- (5) That boys preferred major before minor chords.

C. W. Valentine found that preparatory schoolgirls of nine gave, on an average, an order of preferences for twelve musical intervals very similar to that given by adults.¹

Two pieces of music were played to the children here, the first with more marked emotional content than the second: Dvořák's *Largo* from the 'New World Symphony' and *Andante* from Mozart's 'Eine Kleine Nachtmusik'. The more emotional music appealed to 20 per cent of eight-year-old girls, 12 per cent of nine-year-olds, 74 per cent of ten-year-olds, and 70 per cent of eleven-year-old girls, thus showing on the whole an increase with age. It is interesting to compare these results with the appreciation of pictures—which showed an increasing appreciation with age of the emotional element in the picture.

POETRY

There is, appended to this book, a list of the most popular books and poems chosen by Juniors for their own reading which, it is hoped, will be a guide to those who give advice on children's private reading. Stories of

¹ 'The Aesthetic Appreciation of Musical Intervals among School Children' (*British. J. of Ed. Psych.*, vol. vi).

adventure and of heroes appeal strongly to the Junior child. It is a pity that many of us do not continue story-telling in the Junior School. When so much time is spent, as now, in individual work, story-time is a friendly social event. This is the age for folk-stories of China, Japan and India, and for the Czecho-Slovakian fairy-tales. It is not necessary here perhaps to put in a plea for fairy-tales; but it is just as well in these materialistic times to be sure *why* we tell them. Teachers must certainly decide for themselves, and if they have no real appreciation for myths and folklore they cannot help Junior children to an enjoyment of these and should not attempt to do so. There is a groping after things unseen which is noticeable in the Junior child in spite of his apparent matter-of-factness and his interest in practical affairs, which can be satisfied poetically by fairy-tales. These are the normal child's heritage and he can know and understand other peoples better by studying their folklore. Who would be deprived of the Wagner stories of the Rheingold? Craving for such tales is normal, and if children are deprived of them they are likely to lack large vision and creative imagination, and to fail in appreciating great poetry.

Each child should have his own anthology, and should also be encouraged to make a collection of his own favourite poems. Most children like to make up verses themselves, although in my experience this is not a general characteristic of the Junior age. Younger children often chant to themselves at play and there is real poetry in some of these little children's play-songs. The more imaginative Junior children enjoy making rhymes and verse, and others will do so to please us, but it does not seem at this age to be such a universal emotional outlet as at 15 or 16.

Children should write poetry freely before tackling the question of metre, so that there is nothing to cramp the flow of ideas. They will easily notice what sounds odd, and whether a line is impossibly long, or has not enough beats in it. It is a great thing to give them good poetry that *we* really appreciate, and to help them to distinguish

between their own attempts at verse-making and the best poetry. There is no reason why children should not enjoy making rhymes, jingles and limericks; it is a game, and sharpens wits. But let us lead them through these to real poetry.

Since the creative arts have been given a larger place in many of the Junior schools, it is amazing to see how widespread is the gift amongst older Junior children for aesthetic enjoyment of music, art and poetry; the amount of real joy that is to be found in painting, in rhythmic movement, in acting and in craft-work; the high standard that is achieved by many in producing these simple forms of beauty. The colour discrimination, and the unsophisticated sincerity, shown in the work of Junior elementary children at the Educational Section of the L.C.C. Exhibition in County Hall, Westminster, 1935, was a clear proof of the possibility of training in taste. While it may be suitable to give lessons on appreciation of the arts to Seniors, I would not advocate any time being set aside for 'talks' on beauty to Juniors. The Junior is essentially active, and learns by doing things. But his attention may and should be drawn to pictures, and he should give judgment as to the choice of picture to be put up and as to where it will look best. He should see how flowers may best be arranged and take a pride in arranging them. He should *never* have to spend his day in a badly arranged or untidy room. A response to beauty in nature is something that may be caught by the child rather than trained. The average Junior is practical and matter-of-fact, but he does catch the attitude of the grown-ups of his world, and if this attitude is one of sincere pleasure in the colour of a garden border, in a field of buttercups, in a well-arranged bowl of flowers, in the spring colours of the stickleback, or the autumn tints on the leaves, then the children will also like to look at these things. For instance, some garden flowers had been sent to an Elementary School in a very poor district and these were brought out for the nature lesson. 'Oh, teacher,' said one girl of nine, 'must we learn

about them, can't we just look at them?' She was a wise teacher not to attempt to give any lesson.

Aesthetic appreciation is not an early development, and often is not apparent until the emotional ripening of puberty. We must beware of forcing our own tastes on the Junior child, who is so easily influenced by suggestion. From pleasure in simple sensations of bright colour, well-defined rhythm, expressed by quite little children to pleasure in dancing, craft-work, pattern-making, the child first gains an elementary insight into form, order and clearness of expression, and this leads to judgment and discrimination of these things in art. Visual and auditory imagery play a large part in the appreciation of music, poetry and art, and our best way of fostering this appreciation is by encouraging the child to listen to the music of the poem, to move to the music that is played, and to express with his brush the patterns and pictures that come into his mind.

Children, like adults, take just what they are ready for. We may see a hundred good pictures, hear good music and read good poetry without discovering any intimate response in ourselves to the vision or the sound. If we do not see the appreciation we expect on the part of the children in response to a poem or a piece of music, we shall not necessarily regard it as unsuitable, but will read it again or play it again from time to time, for sometimes in a flash at an unexpected moment the thing we know becomes real—not merely noetic—it awakens in us an emotional response, and thereafter has real significance for us.

CHAPTER VI

CREATIVE ACTIVITY: THE JUNIOR CHILD'S JOY IN MAKING AND DOING

THE desire to make things is so characteristic of the Junior child that the workshop or the studio might well be considered the hub from which the other activities of the Junior School radiate. Left to himself, the average child spends much of his time in making things, and when he has to tidy up the room or get ready for bed we hear, 'Please don't move that; it is something I am making'; 'Just let me finish this'; or 'Would you like to see what I have made?' What leads him to create things? He creates in response to an urge somehow to express himself. The urge is fundamental;¹ the actual expression is partly dependent on the dominant type of creative imagination which the child possesses, e.g., whether his interests are mainly intellectual, artistic, or practical. The form it takes is also largely dependent on the idea or suggestion which comes from the environment: a girl of seven or eight sees her mother knitting and wants to knit for her doll; a boy has a Meccano set given to him and this suggests things to make; another sees his father making a book-case and wants to do woodwork. These children do not make exact copies of the things they see. The work may have the stamp of originality, although the kind of activity undertaken is stimulated by suggestion from the environment. For example, certain children of nine and ten years found satisfaction and interest in the pottery they were making at school. The first results were crude, but they were original, and stimulated the desire in all the children for further work. One girl, however, who was not outstanding in any way either in practical or in intellectual work, found that pottery had a particular appeal for her. She made it her chief medium of self-expression, and not only carried

¹ See McDougall, *Outline of Psychology*, p. 162.

her technique far beyond that of the others and produced a high standard of work, but her confidence was strengthened and her personality enlarged, as it always is by the feeling of power that accompanies the joy of translating ideas into material form. Again, rather crude puppets made by children of eight and nine were improved upon by two boys in the class to whom that kind of creative activity especially appealed. Puppetry became a fascinating hobby for them, and now, five years afterwards, they are producing interesting plays in their home-made theatre with the most artistic and skilfully made puppets. These children would not have started pottery or puppetry on their own initiative, but they undoubtedly gained much from those particular types of activity. Other children, with perhaps greater interest in rhythmic movement, will make up dances, or act the stories they read; those with literary interests will write stories or poetry, and those with artistic ability will prefer to paint pictures. In every case the same urge to create leads children to seize on some material their environment provides and to use it as a means of expression. That the first results are crude does not matter, and either destructive criticism or unmerited praise is harmful. Children will learn most from an attitude of encouragement accompanied by what they know to be fair judgment, and as much help with technique as they ask for and are ready for.

Wherever possible we should provide for a variety of crafts in the Junior school, and it is essential that the children should be taught by people who understand and appreciate their craft.

What things do children make when they are left free? As will be seen in the earlier chapter on children's interests, handwork of some kind forms one of the most popular occupations of all children when they are left free in a school environment. It is quite likely that, in a home or a play-centre affording the same opportunities as a school, much the same interests will be found, but the observations given here were made in a school.

Details as to the type of creative work done by these

children were noted by the teachers and are summarized below:

- 7-9. Building with bricks: houses, garages, castles, boats, etc.

Constructing things from available material simply by rearrangement of the material, e.g., mountains and castles from the sand-pile, a train or a bus from a row of chairs.

Making patterns with coloured counters, shells, etc.

Modelling objects from clay the children had dug up, from plasticine, glitterwax, candle wax, or any other plastic material.

Making of dolls'-house furniture from match-boxes, chestnuts, etc.

Drawing and painting and cutting out pictures.

Cutting out and sewing dolls' clothes, knitting, etc.

Making up dances; writing stories.

- 9-11. Sewing dolls' clothes.

Making designs to embroider in needlework.

Making Japanese gardens and at other times little rock gardens in their own plots of ground, which showed much originality and creative imagination.

Drawing, carving animals out of chalk and wood.

Writing stories was not, as might be expected, more generally popular than with the younger children, but those children who preferred this type of creative expression turned to it more frequently and were more persevering, sometimes producing long serial stories. The subjects chosen were frequently animal adventures.

What is to be the teacher's part in the workshop or the studio? It is threefold:

(a) To give the right environment. A well-fitted-up studio full of plaster casts and figures of Venus and geometrical models, such as is often part of a Secondary School equipment, is not suitable for the Junior School. A spacious room with a strong low bench and deal work-tables—preferably solid deal boards on firm trestles which can be moved easily when necessary—is the best type of handwork room. A chest or cupboard well stocked with suitable materials for constructive work—a bin of clay, etc., should be in the room. Tools must be well cared for, must be suitable for the children's use, and kept ready to use. These things are important in method, and it is a great advantage to have one member of the staff responsible for this room. She can give children various responsibilities. It should not only be the children's work that decorates the walls. Some copies of good works of art, if possible examples of good craft-work as well as pictures of workers and of the development of their craft, should help to create the right environment. It has been found in practice that this is more satisfactorily done when some one takes definite charge of the room, but it does not mean that the only handwork will be done here, or that we are necessarily to have a handwork specialist. It means that there is one room where children, on entering and getting into overalls, with tools to hand, can work to the best advantage. We know that it is easier to write an article sitting at a desk than in an arm-chair, or easier to read up a reference in the quiet of the library than in the babel of the playground. These things help work habits and make for efficiency.

(b) The giving of technique has already been mentioned as the work of the teacher, for good work can only be done with a knowledge of the use of tools. It is important to realize, however, that we do not begin with technique. In the Junior School we do not tell the child his drawing is out of proportion or that his perspective is wrong, for we expect the outstanding object in his picture to have the greatest importance for him. The successful teacher is

one who is able to show the child how best to express what he wants to express, when he sees that he is hampered by lack of knowledge. There are right ways and wrong ways of using tools, and this is the time to teach the correct use.

(c) The giving of ideas is part of the teacher's work. This sounds contrary to all that has been said about the importance of leaving children free. It is true we cannot direct children's work and say, 'Do this in this way', and expect any creative work from them, but it is just as true that if we put children in a room and say, 'Make what you like', or 'Draw what you like', the majority would be incapable of producing good creative work. All children cannot just 'express themselves', as we mistakenly thought at one time. The urge to create is in them, but imagination needs something to work on. As Professor Spearman has shown, to create is to produce a new thing by relating two known things in a new way.

Another important question is: How far is it permissible for the teacher to suggest?

At the Junior stage the suggestions given should only be such as to help the child to express himself better in his own way. We must learn to look at things from the child's viewpoint and not spoil his spontaneity by trying to force on him an adult conception of objects. The suggestions made should also be in the form of encouragement to the child when his work shows detailed observation or imaginative colour; we can show him how to get the result he is striving after if we watch him carefully.

I have rather emphasized the craft side in handwork, but that does not mean that it is of greater importance than the handwork done in connexion with other subjects—the group work, or the 'project', that has such a central place in the general work of the Junior School. It has a different place. A pot, a woven scarf or bag, a picture or a wood carving—something that has been designed and made by the skilful working of the child's fingers in response to the

dictates of his mind—something imagined and brought gradually into shape—has the stamp of the child's personality just as a story is marked by the personality of the writer. The thing is his own. Through the giving of himself to the creating of a real thing the child becomes a more real person. This may be less true in the case of constructive work in a 'project', although that has other, and no less important values. The child at the Junior stage is practical and on the whole finds more satisfaction in working with his hands than in learning from books. For instance, the making of a large model of a Norman castle with a working drawbridge will give reason for the study of connected facts which will make vivid the story of life in Norman times. The construction of a bird-table and of nesting-boxes for a bird sanctuary in order to study more carefully the habits of birds will create much greater interest than could be called out by lessons without this practical basis. To set up a shop and make things to sell, to make out real bills and to weigh real things gives a purpose to arithmetic which might otherwise be lifeless drill-work. The high degree of persistence, the resourcefulness, and the necessity for finding ingenious solutions that this kind of work calls forth, make it above all other activities an essential part of Junior education.

CHAPTER VII
THE INTERESTS OF CHILDREN BETWEEN
7 AND 11

I. PURPOSE OF INQUIRY

AN inquiry into the interests of children between the ages of 7 and 11 was undertaken with the object of considering the Junior School curriculum. As it stands now, the usual curriculum contains a large number of separate subjects. The tendency is to add to the formal list. Whereas the Infant stage in education is considered an important developmental period in itself, the Primary stage seems hitherto to have been considered simply as the preparatory period for the Senior school. The subjects that will be required at 14 are begun at 9, and are taught by much the same methods, regardless of the fact that the average nine-year-old can make little use of them.

The Board of Education Report on the Primary School in 1931 found that 'though in framing the curriculum for children between the ages of seven and eleven, it is necessary to build upon the foundations laid in the infant school and to keep in view the importance of continuity with the work of the secondary school, the main care must be to supply the pupils with what is essential to their healthy growth, physical, intellectual and moral, during this stage of their development'.

The question for us to decide is: What is essential to their healthy growth?

According to a well-known psychologist and psychotherapist, 'Mental health is conditioned by the full expression of all the native tendencies in harmony with one another.'¹ What are the native tendencies of the children of the ages we are considering? According to the same

¹ J. A. Hadfield, *Psychology and Morals*.

writer the natural impulses¹ at this time are to hoard, to construct, to hide, to invent secret codes, to fight against the forces of nature, to run and leap and exercise muscles, to love the out-of-door life, to herd together, not with the true social aim, but with the urge to congregate, to pay little attention to adults except as members of the gang.

We can no longer accept Stanley Hall's Stratification Theory and assume that because certain primitive interests appear at a maximum between the ages of 7 and 11, the child is therefore recapitulating stages in the development of the race. All individuals do not pass through the same stages at the same age, some develop more rapidly than others. One individual may have different physical, mental, emotional and chronological 'ages'.

It is with a view to inquiring into what should be taught to children between the ages of 7 and 11 that the following questionnaires were undertaken. The attempt was made to gather facts which may be used in the reconstruction of the Primary School curriculum on the lines of the theory of the curriculum already quoted from the Primary School Report.

The first questionnaire deals with the subjects that appeal or do not appeal to children themselves; the second gives the result of teachers' observations.

II. THE QUESTIONNAIRE

A questionnaire was sent to eleven schools of widely varying type, and owing to the kind and helpful co-operation of the principals and members of the staff, 1,042 replies from children between 7 and 12 were received. The schools included five private Preparatory Schools in London and in the country, where the children are of good

¹ The word is not used with the same meaning as 'instinct' or 'natural propensity'; no one would speak of the instinct of inventing codes, but these are interests widely characteristic of this age, and forceful enough while they last to suggest some strong inner urge to behaviour of this kind.

social standing and of high average intelligence; two suburban and provincial Preparatory Departments of Secondary Schools; four Elementary Schools, two in good and two in very poor districts. Replies were received from 117 boys and 825 girls.

The following questions were answered by each child:

1. What is your favourite subject or occupation in school? Why?
2. What is your second-best subject or occupation?
3. What subject do you like least in school? Why?
4. What do you like doing best out of school?
5. Complete the following sentence by filling in the space with one or more words: 'I do not think we do enough . . . in school.'

Care was taken to ensure true and spontaneous replies by forbidding discussion on the subject, or comparison with one another while answering the questions. The children were also told to answer the questions exactly as they wished; there was no right or wrong answer. These instructions were carried out by some member of the school staff who presided.

Results

There was a certain amount of difficulty in classifying the results. In the case of the favourite subject, handwork includes drawing and painting, knitting and needlework, but where specified, the different kinds of handwork are also given in order of popularity. In the case of the subject liked least, drawing and painting, knitting and needlework are classified separately. Literature, grammar, and composition come under the heading 'English', but the results of these sections are given separately. Nature, science, physics, botany and biology are treated under one heading. Algebra is occasionally mentioned as a least popular subject, and is counted under the heading 'Arithmetic'. Singing and music are taken together, as are drill and games, poetry and recitation, spelling and dictation. These are

recognized as distinct 'subjects', but as appealing to the same kind of interest.

III. RESULTS

In the general result, no distinction is made between boys and girls, and no attention is paid to the type of school.

Results: Favourite Subject or Occupation in School

Out of 1,042 cases :

Handwork	was chosen by	32%
Drill and Games	" "	30%
Arithmetic	" "	13%
Stories	" "	7.7%
English	" "	4.5%
(Literature 2.5%, English 1.2%, Composition .8%)		
Reading	was chosen by	4.2%
History	" "	3.3%
Geography	" "	2.5%
Writing	" "	1%
Nature	" "	.9%
Singing	" "	.6%
Dictation	" "	.3%

Details of Favourite Subject or Occupation in School

Subject	7-8 yrs.	8-9 yrs.	9-10 yrs.	10-11 yrs.
No. in Age Groups	198	305	283	256
Arithmetic	20%	21%	11%	10%
Handwork	35%	36%	35%	25%
Gym. and Games	10%	13%	21%	37%
English	3%	0	7%	14%
Reading	14%	5%	6%	2%
History	0	1.4%	2.5%	6%
Geography	0	.4%	.7%	2%
Singing	1.5%	.5%	.7%	2%
Writing	0	.7%	0	.5%
Dictation	0	.7%	2.4%	1%
Nature	.7%	1.4%	10%	.5%
Stories	19%	6%	10%	0

IV. REASONS FOR CHOICE OF FAVOURITE
OCCUPATION IN SCHOOL1. *Arithmetic*

Arithmetic seems to be chosen for one of two reasons:

(a) Because it naturally interests some children, and comes easily to them. They feel that here is something in which they can excel. Typical reasons are, 'Because I can do it', 'Because sums are interesting', 'I like thinking out the problems', 'I always get a star for it', 'I like hard sums', 'Because it is easy to me', 'Because I am good at it', 'I like problems because I like being puzzled'.

(b) Because it appeals to the self-assertive instinct, and perhaps to the interest in wrestling with a difficulty. A typical reason is, 'Because it is hard', or 'Because I like doing hard things', 'Because I am getting better at it', 'Because it makes me think things out'.

These two types make up 93 per cent of the reasons given. Another type less frequently given is, e.g., 'Because it helps you when you go to work', 'Because it is very useful when you get older and go into a shop', 'Because it helps me to get a scholarship'.

2. *Handwork*

Two chief types of reasons are given:

(a) Interest in the activity—mainly by younger children, 7 to 8, typified by such reasons as, 'Because I am using my fingers', 'Because it is nice to *do* things and not always sit and learn', 'Because it is such fun to make something'. 'Because it is interesting' was given 119 times out of 272 by children under 10.

(b) Interest in the result, typified by such reasons as, 'Because it is useful', given nine times. 'Because we make pretty things', 'Because you can make things to wear', 'Because I will grow up to make useful things', 'Because I like seeing a thing grow—like a pot from some clay',

'Because I like to feel I have made something myself' (11 years).

Other interesting reasons, 'Because we do not need much sense to do it' (10), 'You can be good at it if you aren't clever' (11), 'Because it is a sensible lesson' (10).

3. *English*

(a) Some of the reasons show a real interest in language, e.g., 'I like writing out my ideas and seeing what adjectives I can use', 'I like to try and make an interesting story', 'Because it is interesting and jolly', 'Because it teaches us new words', 'Because I enjoy making sentences', 'It is lovely to think of a sentence with a given word in it'.

(b) A feeling of confidence and power underlies such reasons as, 'I like composition because it is something I can do well', 'Because it is easy to me', 'Because I read a lot and am good at composition', 'Because I can do it well', 'I am rather good at composition'.

(c) Imagination, e.g., 'I love imagining things and writing them down', 'I like inventing stories and using interesting words', 'I like to tell people about other things and people', 'I like describing atmosphere'.

(d) Only one such reason is given as, 'I like learning the different parts of speech'.

Reading

(a) Reasons which show use of reading for getting a knowledge of other subjects. Eleven such were given.

(b) A larger percentage show interest in reading stories, e.g., 'Because we have such nice books at school', 'Because I like reading fairy stories', etc.

(c) Imagination, 'Because I can pretend I am a person in a story'.

4. *Gymnastics and Games*

(a) The large percentage of children who give this as a favourite occupation, especially those between 9 and 11, show by their reasons the necessity for movement and

exercise. The reason for the increase at this later age is probably that the younger children do have more movement during the day. Reasons for their choice are typified by such examples as the following, 'I like gym. best because I do not like long sitting-still lessons', 'Because it gives me exercise', 'Because it is movement', 'Because I like movement', 'Because I like moving about', 'Because I like exercising my muscles', 'Because it is a nice change from sitting still', 'Because we have exercises'.

(b) Another class of reasons given sufficiently frequently to be worth mentioning is typified by, 'I like drill best because you don't have to think', 'Because there is no work in it', 'Because it is like a game', 'Because it is like play'. These are rather different from such reasons as:

(c) 'Because I enjoy games', 'Because we have team games', 'Because we have competitions', 'Because playing in the open air is so exhilarating', 'Because though gym. is as difficult as lessons, it is jollier'.

5. *History*

History is mainly popular for such reasons as 'I like to know what happened long ago', 'Because it is so interesting and goes back such a long time ago', 'Because it tells you what happened before we lived on earth'.

6. *Geography*

This subject is mainly interesting from the point of view of learning about other people. Typical reasons given are, 'It is so interesting to know about other countries', '... the way other people live', '... what other people in the world are doing', etc. 'It is my favourite subject because I want to travel, and you must know some geography before you can travel.'

7. *Singing*

Reasons given are: 'Because I like music', 'Because I want to be a good singer', 'Because I like it', 'Because we are all together'.

8. *Nature Study*

This includes botany, physics, science—which appear to be begun in some schools at 10 or 11 years. Reasons given include, 'Botany is my favourite subject because when you have a garden yourself you can't ask everybody how to plant your seeds, so it is wise to know some botany', 'Nature, because it helps you to know how to grow things', 'Because it is interesting to go for Nature walks'.

9. *Writing and Dictation*

These subjects are chosen as favourites solely because of the satisfaction of being able to do them, e.g., 'Because I can do neat writing', 'Because I am good at it', 'Because I get A', 'Because I am best at it', 'Because I can spell well', 'Because I can do it easily', 'I get a star'.

Observations on Reasons for Favourite Subject or Occupation in School

It will be noticed that handwork is less popular with 10 to 11 years. This may be because children at this age begin to show greater appreciation for intellectual pursuits; they have got through the drudgery of the tool subjects. From observations of the replies and the reasons given, it would appear that at any rate in the Elementary Schools needlework and knitting largely take the place of handwork after the age of 10, and these are on the whole very unpopular. Drawing and painting have been included in handwork, and these are also more popular at 7 to 9 than later.

Details of Handwork

Drawing and Painting	chosen as favourite by 10%
Weaving	" " " " 3%
Needlework and Knitting	" " " " 5%
Pottery	" " " " 2.5%
Handwork = any constructive work	" " " " 16%

Singing appears to be comparatively unpopular, although on questioning individual children we found that singing is much enjoyed while the singing *lesson* is not.

History has perhaps a lower percentage than would otherwise be, for younger children are given history stories, the interest in which is more in the story, so that this subject has been included in stories, with children under 8. It is probable that up to 11 years the interest is a story interest; however, after 8+, it has been considered separately.

Subject liked least in School

Out of 1,042 cases:

Arithmetic	was chosen as the least popular by	18%
Geography	" " " " " "	15%
Composition		
& Grammar	" " " " " "	14%
Needlework	" " " " " "	12%
Dictation	" " " " " "	8%
Writing	" " " " " "	5%
Singing	" " " " " "	5%
Science	" " " " " "	4.2%
Reading	" " " " " "	4%
French	" " " " " "	4%
Drawing	" " " " " "	3%
Recitation	" " " " " "	3%
Drill	" " " " " "	2%
History	" " " " " "	2%
Handwork	" " " " " "	.8%

Subject	7-8 yrs.	8-9 yrs.	9-10 yrs.	10-11 yrs.
Arithmetic . . .	22%	14%	14%	20%
Geography . . .	14%	15%	20%	11%
Composition and Grammar	18%	26%	16%	12%
Needlework . . .	17%	9%	12%	14%
Dictation . . .	5%	12%	10%	4%
Writing . . .	6%	6%	4%	3%
Singing . . .	5%	0	4%	.8%

Subject	7-8 yrs.	8-9 yrs.	9-10 yrs.	10-11 yrs.
Science, Physics and				
Biology	—	—	2.5%	8%
Reading	5%	5%	2%	1%
French	—	—	2.5%	12%
Drawing	5%	4%	3%	2%
Recitation and Poetry .	1%	0	3%	10%
Drill	1%	5%	1%	2%
History	1%	4%	3%	2%
Handwork	0	0	3%	0

V. REASONS FOR SUBJECT LIKED LEAST IN SCHOOL

Typical reasons are given:

1. *Geography*. 'Because it is uninteresting' (given 173 times), 'I do not like it because you have to find places on the map' (9, 10, 11 years), 'Because it is all about maps and wriggly lines which I get mixed up' (10 years), 'Because it is not very interesting learning towns and countries all over again', 'Because I do not like following on the atlas the places the teacher finds on the map', 'I think it is so dull', 'It is not interesting and there is nothing exciting in it', 'It seems so dull and miserable' (10 years).

2. *Nature, Physics, Science, Biology*. 'It is not very interesting, and knowing all about molecules, etc., does not help you when you grow up', 'I do not like finding "densities" or other things like that', 'It is very dull', 'I do not care about learning about insects because the teacher is too slow and gives the same lesson all over again' (9), 'It is such a boring lesson'.

3. *Recitation, Poetry*. 'Because I am shy', 'Because I don't like standing in lines to say it', 'Because I haven't a good memory', 'We have to open our mouths wide', 'Because I have to speak out'.

4. *Singing*. 'I get tired of standing so long' (7 cases), 'It makes your throat ache to get the high notes', 'It is dull', 'I think the sol fa is so dull', 'Because it means standing still'.

5. *Composition*. 'It is so hard to describe things', 'I

can't think what to put', 'It takes me so long', 'I never get done in time', 'Because you never know what to start with', 'It is such a long lesson', 'It makes my arm ache'.

Grammar. 'It is so uninteresting' (17 times), 'I cannot see the point of learning adverbs and things like that' (8 years); 'Because I don't like nouns', 'I hate grammar because the nouns and verbs are so silly and muddling', 'I have no interest for dividing sentences up, and I don't see any sense in it' (9 years).

6. *Needlework.* 'It is not interesting to me', 'Because I am not artistic', 'You have to make so many stitches all alike', 'I am not good at it', 'I get so hot and bothered over it', 'I never seem to be able to keep it clean'.

7. *Handwork.* 'I am not very good at it' (2 cases only). Pottery is disliked by one child of 8 'Because you do not have to use your brains much'.

8. *Writing.* 'It makes my arm ache' (given 19 times), 'My hand aches', 'You have to sit still too long', 'I make blots'.

Observations on Reasons for Subject liked least in School

1. Nature Study is among the favourite subjects under 10 to 11 years. When it becomes 'Science' it is unpopular. It is 'so dull' in 8 per cent cases of those who named it as their worst subject.

2. *Geography* is striking in its unpopularity. 'It is so uninteresting and dull' according to 20 per cent of children 9 to 10 years.

3. *Handwork* is very seldom a worst subject, but needlework is very unpopular.

4. *Composition* is 'too long'. Children cannot 'think what to say'.

5. *Grammar* is unpopular because children do not see the need for it.

All the above reasons for unpopularity seem to point to bad teaching, bad methods, inclusion of the subject in the curriculum before children are ready for it, and the fact

that the work is being done by the teacher instead of by the children, who see no reason for learning it.

The reasons given show that children enjoy things they can do; e.g., Arithmetic is popular with children who 'can do it'.

I have avoided comment on certain reasons for preference or dislike of a particular subject, when the same occur in one class, and when it obviously refers to a particular teacher, e.g., 'It is dull' is given several times in one class as a reason for History being the least popular subject. But 'It is uninteresting' is given for Geography in practically every school. I have not quoted a reason as typical unless it occurs a number of times from different types of school.

VI. CHOSEN OCCUPATION OUT OF SCHOOL

Outdoor games: swimming, skipping, riding, cricket, cycling, net-ball, etc.	36%
Playing specified games, e.g., ball, hopscotch, bagatelle, playing with dolls, or just 'playing'	21%
Reading	14%
Work, e.g., housework, homework, etc.	6%
Gardening	5%
Walking, rambles, nature walks, etc.	4%
Handwork, including knitting, dolls' clothes, etc.	3%
Artistic pursuits; and music	3%
Minding babies	3%
Acting	2.2%
Nature, collecting specimens, etc.8%
Literary pursuits: making poetry, writing stories, etc.8%
Camping6%
Motoring6%

Such occupations as cooking, going abroad, holidays, going to the cinema, theatre, feeding rabbits, sunbathing, girl guides, talking, hairdressing, are all mentioned by less than 4 children.

It is necessary to state that the inquiry was made during the summer term, and this fact may have given increased

popularity to tennis and swimming, and may have made other outdoor games appear to have a larger percentage, but winter games were also mentioned, and it is likely that those who gave swimming would have given some other game or physical exercise in place of it, if the inquiry had been made during the winter.

It is also necessary to remember that children under 11 years are interested in what seems to them pleasant or otherwise at that particular time, and cannot be expected to be true judges of what is in the long run their favourite occupation. On the other hand, when as large a number of cases as over a thousand is taken, the replies can be expected to have some significance even if a certain number must be discounted as being the result of momentary interest or prejudice.

The last question dealt with subjects children did not consider they had often enough in school. As might be expected, these often coincided with the favourite subject, but not by any means always. They are given in order of greatest to least, only the five mentioned most frequently being given:

1. Handwork.
2. Drawing and Painting.
3. Dancing.
4. Gym. and Games.
5. Lessons, or 'hard work'.

VII. CONCLUSIONS

The following broad conclusions can be drawn from the foregoing results of the questionnaire:

Children between 7 and 12 enjoy working at things in which they can excel.

Practical pursuits are more popular than literary ones.

Children require a larger amount of exercise and more movement than appears to be given in most schools.

Too long a period is spent in writing, leading to cramping of muscles. This must be due either to bad writing

habits or to the strain or boredom, or both, with a long spell of 'copy writing'.

Children at this age do not see the use of Grammar as it is taught.

Many things are taught which seem pointless to children of this age, and therefore cause boredom, e.g.,

- (a) Various branches of elementary science. 'It is not very interesting learning all about molecules, and it does not help you when you grow up', and 'I do not like finding "densities" and things like that'.
- (b) The sol-fa in singing.
- (c) Introduction of maps before children are ready for them.

Children may perhaps be prejudiced against subjects which might well be postponed till 12 or 13 by beginning them too early.

With regard to children's interest in dramatization, in one school only 'acting plays' was given as a favourite occupation. On inquiry it was found that in the other schools it did not take a sufficient place in the curriculum (if it was included at all) to be considered as a 'subject or occupation in school'. In the one school where it is a prominent activity, 'acting' was given as the favourite occupation in 87 per cent cases. The number of children was 42, and as the high percentage on this number would appear small on 1,042, I have discounted it altogether, keeping only to subjects or occupations common to all the schools. In most of the above cases another subject was also given as the favourite, and where this was not the case, the second-best subject is given. If acting were generally included in the curricula, it would be interesting to see whether it would be more popular than drill and games and handwork. If we are to judge by the high percentage of popularity in one school, this would undoubtedly be the case.

Attention has been drawn to the fact that the judgments of children between 7 and 11 are based on their *immediate*

interests; they are incapable of examining their attitude towards a particular subject or occupation without being influenced by its recency, its frequency, the popularity of the teacher of the subject, and many other factors. The remarkable thing about the result of this questionnaire, however, is the consistency of the replies, the significance of the high percentage both in certain favourite occupations and the least popular subjects, characteristic of this age, quite regardless of social and environmental factors.

VIII. TEACHERS' OBSERVATIONS

It seemed likely that a more complete knowledge of the interests characteristic of this age would be gained by the results of careful observers of children at varying times, in varying environments, and under varying conditions. Eight teachers of children between 7 and 11 were therefore asked to give independent replies to the following questions:

1. What do *you* consider the most popular subject(s) in your curriculum?
2. As far as possible in order of greatest to least, give a list of the most popular occupations of your children when they are free.

The results are as follows:

Favourite subjects of Pupils as judged by the Teacher

- 7-8. Handwork, stories, drawing.
- 8-9. Handwork, drawing and painting, gymnastics and dancing, etc., practical geography and outdoor work in nature study.
- 9-10. Gymnastics, eurhythmics, practical work in connexion with history, geography, etc., history, drawing and painting, practical geometry.
- 10-11. Gymnastics and games, nature, handwork and craftwork, literature, history.

The most popular occupations, from greatest to least, of children between 7 and 11 when they are free, as given by eight teachers

1. 7 to 8 years (boys and girls):

- (a) Hide-and-seek, chasing, and prisoners.
- (b) Secret societies.
- (c) 'Mothers and naughty children.'
- (d) Jigsaws or other puzzles.
- (e) Carpentry.
- (f) Reading.

2. 8 to 10 years (boys and girls):

- (a) Skipping and other forms of exercise.
- (b) Jigsaws, etc.
- (c) Gardening.
- (d) 'Ragging'.
- (e) Cricket or other games organized by themselves under a leader.

3. 8 to 11 years (girls):

- (a) Team games or games under a leader of the group (usually disputes about leadership 8 to 9 years).
- (b) Handwork, drawing, etc.
- (c) Making up stories.
- (d) Charades.
- (e) Reading.

4. 9 to 11 years (girls):

- (a) Swimming, riding, etc.
- (b) Organized games, e.g., tennis, played in an unorganized fashion—with their own rules.
- (c) Handwork—needlework, knitting.
- (d) Reading.

5. 10 to 11 years (girls):

- (a) Construction of a puppet theatre.
- (b) Making up stories for dramatization.
- (c) Charades.
- (d) Playing with tiny dolls and animals.
- (e) Reading.

6. 9 to 11 years (boys and girls):

- (a) Active play, skipping, etc. Collecting marbles, stamps, cigarette cards, etc.
- (b) Playing with animals (not caring for them except intermittently until 10 or 11).
- (c) Secret societies and secret code languages.
- (d) Sewing and knitting.
- (e) Reading.

- | | |
|---|---|
| 7. 8 to 9 years (boys):
(a) Outdoor play at hoops, hopscotch or whatever offers itself.
(b) Hiding and chasing.
(c) Collecting marbles, etc.
(d) Secret societies.
(e) Carpentry or other hand-work.
(f) Reading. | 8. 9 to 10 years (boys and girls):
(a) Hide-and-seek.
(b) Cricket, football, tennis, etc.
(c) Charades and 'acting'.
(d) Handwork, sewing, dolls' clothes, knitting.
(e) Jigsaws.
(f) Reading.
(g) Making gardens. |
|---|---|

Points worthy of remark in these results are:

1. The fact that here, as in the children's replies, we are faced with the difficulty of varied environment and opportunity. What children choose to do in their free time is often largely dependent on what is suggested by adults, what is the 'craze of the moment', what resources their environment provides, etc.

2. We see nevertheless a remarkable overlapping in the choice of free occupation as given independently by the teachers. These agree very well with the replies given by the children.

3. One of the chief characteristics of children between these ages is the regularity of the 'seasonal craze' which spreads rapidly, becomes an absorbing interest, and then wears off. During the last year I have watched the 'collecting of marbles' craze, which lasted roughly two months; collecting of small ivory and glass animals, which lasted longer; the jumping craze, which occupied every play-time for the whole of the Easter Term; 'prisoners', which lasted most of the Summer Term. Dressing tiny dolls, knitting minute garments on ordinary needles or pins, and making rock gardens, have all had a short period of popularity.

We have tried to make use of the foregoing facts, which throw some light on children's interests, in our reconsideration of the curriculum.

Other and more extensive investigations into the popularity of school subjects have been made, notably by Cyril Burt, and by Lewis. A recent study of subjects preferred by Secondary School children has been made by R. A. Pritchard (*Brit. Journal of Educational Psychology*, vol. v, part 2, 1935).

The foregoing, although it deals with a smaller number, was undertaken for the express purpose of trying to ascertain the interests of children of Junior School age as shown by their preference for given subjects and their choice of occupation in and out of school. For this reason it seemed advisable to disregard sex and social status.

CHAPTER VIII

THE JUNIOR CHILD'S ATTITUDE TOWARDS HIS ENVIRONMENT

I. RELATION TO OTHER CHILDREN

ONE of the chief characteristics of the child passing from early childhood to the Junior School age is his desire to play with companions. Up to about the age of 7 he may have enjoyed companionship of other children, but his play has been largely individual. In the midst of his fellows he has often preferred to play by himself; now he more definitely and frequently wants to play with companions. Co-operative games are organized, and the children form groups and gangs and, later, teams. This is the period of the greatest physical activity; it is now that doing counts more than thinking, and doing things that will display power over material objects and over the wills of other people.

The child now begins to develop a social consciousness, to recognize himself as one of a group, and he wants to be sure where he stands in the group. It is a matter of great importance to him that he should make himself felt, and it is for this reason that the children of 8 and 9 often become very self-assertive, noisy and boisterous. The assertion of his own will in order to make some effect on other wills helps the child to a realization of himself, without which no boy or girl can grow up to be a normally adjusted member of society. The Junior child cannot realize his own self and its potentialities except in relationship to other children of his own age.

A close study of children of this age has shown that while there is a craving for freedom and independence, there is also a feeling of the need for security and absence of responsibility. This conflict is not characteristic of the Junior stage only, but it becomes more acute now, because

social prominence is, of all things, most desired. The child is anxious to be one of a group because he is able to show off to the others, and the idea of real co-operation only gradually appears. We notice how, when children of 8 to 10 are organizing group games, every one wants to be leader; there is a certain amount of squabbling before this is settled. Then every one wants 'first turn'. It is usually later, towards the end of this period, that the children are able spontaneously to recognize qualities in other members of the group. True co-operation is a characteristic of the adolescent, more than of the Junior, for the Junior will jump well and bat well to show off his prowess to the rest of the team, but not with the idea of the good of the team. The idea of playing for a team or working for a group, of consideration of the rights of others and of loyalty to a cause, all the qualities necessary for the truly social point of view, will grow naturally from this love of social prominence. What is required is the 'give and take' of a group of children of his own age, for only thus does the child gain an audience which does not give him a false opinion of himself, either by overestimating or by underestimating his powers. If he can obey the rules of the group, then he is accepted, and has an audience before which he works off a great deal of self-assertive showing-off. It is lack of freedom for outlet in this kind of unorganized group play, so valuable at this age, that leads to self-conscious 'showing off' in front of grown-up people, and to a persistence of crude self-assertive tendencies.

The attitude of boys and girls to one another at this time seems to be one of mutual indifference. Boys generally play together, and girls together, because their play interests are beginning to show a wider divergence. Often, however, both sexes play together, as in climbing and hide-and-seek, etc. There are fewer cases of boy-girl friendships than in the Kindergarten, where five-year-olds will sit hand in hand, kiss one another and promise to marry, although this seldom lasts for more than a week or so. The popular children amongst Juniors are undoubtedly of the extrovert

type, and there is a genuine admiration for people who can *do* things. Juniors are very fair in their appreciation of one another's good points, which is a very good reason for finding something that the rather-below-average child *can* do. Praise from his fellows means much to a diffident child, and he can be given confidence by being praised for proficiency in some particular thing. But Juniors are also very critical and sometimes scathing in their judgments. They are less outspoken in some ways, but have greater power of judgment than the younger children. Yet they have less sensibility to the feelings of others than the adolescent.

II. RELATION TO ADULTS

The Junior child normally has little use for grown-ups except as they form part of his 'gang'. After the age of 7 he is less dependent on his mother or nurse, and likes to do things for himself. At puberty his relations with adults become more intimate and personal. Between 7 and 11 as a general rule he does not care to be bothered with them. This is the conscious and outward attitude. There is, however, a craving for intimacy with the parent that may take an exaggerated form, and lead to abnormal behaviour. As teachers, we do not on the whole have the problem of great 'passions'. The child frankly likes us for what he can get out of us in the way of interesting things to do. This attitude is healthy. He likes us to take part in his 'clubs' and activities if we accept him, and he can accept us, on a footing. In this case he often prefers us to take a leading part 'because then the others will behave' . . . 'We shall get it done properly' . . . 'You always help us' . . . 'I think the staff ought to join in', etc. It is an essentially active part we must take. Perhaps the most successful Junior teacher is one who knows how to be thoroughly matter-of-fact, and who is most resourceful. Children begin to realize their own limitations, and welcome the experience of the grown-ups and want to use it. They seek the approval of grown-ups in rather a different way

from the five- and six-year-olds. If given the opportunities for group play described above, they do not show off much or want to display their prowess. They want us to enter into their interests and to listen to what they have done. They do not find any sexual satisfaction in mere contact with grown-ups; they do not discuss their own feelings as in adolescence. They want us either to live their life, or to keep out of it. Sometimes they show complete indifference to the presence of adults, and this is the age of greatest difficulty for the training of 'good manners'. Nothing more frequently rouses contra-suggestion from the boy or girl of 7 to 9 than the injunction to 'shake hands' or to say 'How do you do?' One boy of 7 told his mother, 'But I don't *want* to know how she does.' The attitude is usually perfectly frank. S., aged 7, on being introduced to a grown-up remarked, 'I have often seen you waiting in the car and always thought I'd like to know you. I was sure you'd be nice because it is so often the ugly people who are the nicest.'

Something has been said of the conflict between the need for freedom and independence and the need for protection and dependence. At no age in his life can a person bear without hurt to the self to feel unloved or unwanted, yet if this difficult stage of 'naughtiness' that strong-willed Juniors often go through is not properly dealt with, it may lead to unhappy social relations between the child and the parent, resulting in a determination on the part of the child to gain attention and the desired intimacy at all costs. If we see to it that more attention and prominence is the result of successful energy, that quiet, genuine, creative achievement does not escape praise, then the child will not have to resort to blatant methods of destructive assertiveness.

III. RELATION TO ANIMALS

There is a real interest in nature on the part of the Junior child, and there is almost universal enjoyment in

the keeping of pets. In the younger children, however, those under about 9, we found the interest was in the movements and habits of the animals, and was experimental. That is to say, the children mainly wanted to watch them eat, to walk them about, and make them run races, to 'feel their bones', etc., and were quite unreliable in caring for them without the assistance of older children or adults. There were several exceptions, noted chiefly in the case of boys, when real responsibility was undertaken at the age of 7. At High March the children of 9½ and over could be relied upon to feed the animals, clean the hutches and cages, and much enjoyed doing so. The following pets were kept at various times: dogs, cats, rabbits, guinea-pigs, pigeons, dormice, white mice, hedgehogs, tortoises, hens, as well as goldfish, canaries, silkworms, caterpillars, etc.

The kind of cruelty often displayed by little children for reasons of lack of knowledge and failure to realize that the experiment may hurt the animal, is seldom seen in the normal Junior child. But such cruelty is sometimes seen as a neurotic symptom. The child of 5 squeezes the cat to make it 'miaow' just as the toy one does, or brushes back the rabbit's fur because he likes the feel of it, squashes a caterpillar 'to see what colour it is inside', or jabs worms to see them wriggle. These cannot be properly called instances of cruelty although they are cruel acts and would be recognized as such by the Junior child.

I have observed the following types of cruelty amongst Junior children:

1. Aggressive Acts: Domination over Creatures

- (i) Making guinea-pigs run races beyond the limit of their endurance (boys and girls, 8 years).
- (ii) Forcing a tortoise into its shell (boy, 8 years).
- (iii) Chasing rabbits into their hutch (girls, 8 years).
- (iv) Tying string to the rabbits and leading them about (boys, 9 years).
- (v) Forcing unsuitable food on animals (girls, 10 years).

2. *Cruelty through Ignorance and Forgetfulness*

(i) Forgetting to feed rabbits and guinea-pigs. (Children of 10 and 11 were found to be very conscientious about their pets, seldom forgetting them.)

(ii) Over-feeding or faulty feeding through ignorance, carelessness, or mischief.

(iii) Confining a tortoise in a small space.

(iv) Pinning a live butterfly to a board. (This was not recognized as a cruel act by a boy of 8).

3. *Abnormal Cruelty*

(a) *As an Act of Revenge.* A girl of 7 was reproved by her nurse in front of other children in the cloakroom, for something she had done; she went straight to the 'farm' and picking up one of the guinea-pigs, threw it forcefully to the ground, breaking a leg.

(b) *As a Symptom of Conflict.* A boy of eight naturally gentle and outwardly kind to animals and attentive to his pet, was found slyly kicking a dog 'because Mummie thinks of nothing but dogs'. It was true that Peter felt that the attention his mother gave to her dog-breeding was depriving him of the attention he wanted for himself.

Some observations on the older Children's Behaviour with Animals

A great interest was taken by girls of 10 and 11 in experimenting with different kinds of food for guinea-pigs, and notes were made of the preferences of Guiana and Peruvian pigs.

Extreme care was taken in preparing 'comfortable beds' for the hedgehog and the mice (11 years).

Interesting observations were kept of the habits of the dormice.

Great care was shown for the female guinea-pig when it was known that she was going to have a family, the children remarking, 'We must hold Pig very gently, she's going to have young ones.'

B., 10 years, watched her tortoises, 'Alexander the Great' and 'Tilly Slowboy', with the greatest care, amounting to an absorbing interest. She ran home to see how they were getting on and reported on details of their habits.

A., 10½ years, showed great interest in the habits of her dog, making sketches and writing a diary of his daily adventures and habits.

We see a gradual development from a liking to pull animals about, to stroke them and play with them for a little while, often showing cruelty the next minute, forgetfulness and lack of responsibility, to real care and responsibility, a more or less continuous interest, personalizing of them, and dressing them up and trying to teach them tricks, etc. There is, in the majority of children of 9 to 11, a real love of animals, and a continuous interest in noting their habits.

Readers may remark on the very limited treatment of this subject here, but, as elsewhere, I have noted nothing but what has been observed frequently enough to lead us to the conclusion that it is characteristic of this age, and this plan is responsible for many gaps. There is need for careful observation of the relation of children to different aspects of their environment, and Junior teachers might do much in this direction towards supplying a fuller knowledge of the school child. The attitude of the school as a whole towards nature is seen to influence the children, and an enthusiasm for seeking the first or the rarest wild flowers, and a reverence for young living creatures is easily communicated to the Junior child.

CHAPTER IX

THE CURRICULUM

IN the light of the foregoing chapters it will be seen that there is urgent need for changes in the curriculum of the Junior School. The need is apparent to those who visit Junior Schools to-day, but it is also apparent that changes in the right direction are coming about in spite of the difficulties which sometimes seem almost insuperable. We need the courage of pioneers if anything is to be done in the face of the present system of scholarship examinations, still approved by education authorities, and those in whose minds tradition dies hard. It is easy to blame authority, but we are afraid perhaps of being considered freaks and cranks, and so, in spite of our beliefs, we continue to tread the well-worn path of tradition.

The recommendations of the Board of Education set forth in the Primary School Report, however, give every support to a free time-table, and definite discouragement to very formal work. Most young teachers are anxious to put into practice the ideal standards given them in their training, but the present system puts difficulties in the way. It rests with those who organize Junior Schools to bring about gradually the necessary changes, but we need support from the Senior Schools. The problem cannot be solved until it is realized that Junior departments are departments in their own right and not merely adjuncts of the Senior Schools.

We hear a great deal to-day about the faults of the current curricula—from teachers, in educational journals and at conferences—but of all that is said in criticism, very little is constructive. Before any reconstruction is possible it is necessary to know just where the trouble lies, and any criticism to be of use must be followed by a loosening of all the bonds of convention and of fixed ideas that have grown up with the educational system. There must be a

courageous thinking afresh from the beginning, in the light of present-day needs. What, to begin with, are the great faults of the Junior curriculum as it stands?

It is based on the assumption that children must be a certain distance along the road in given subjects before they enter the Senior School. When he is 'so far' in History, or 'up to' a given rule in Arithmetic the child is ready for the Senior School.

It is composed of a number of disconnected subjects for which we have for some time been striving to find a link. We have added to the so-called 'fundamental' subjects, art, handwork, music, etc., but for the most part the teaching of these is rather uninspired. They are not *real* enough. Our judgment of what is fundamental should not be influenced by what were considered to be the rudiments of education a century ago, but by what, with our present knowledge of the child, appears to be fundamental to his needs. Now Junior and Senior Schools are less progressive than the Infant School. This is a true criticism. Why is it so? It is because the Infant Schools stopped trying to cultivate certain skills by laborious effort and came down to the real problem of how to base the curriculum on the needs of the child so that spontaneity and individuality are preserved. The need of the child under 7 is activity, activity for its own sake. The need of the child from 7 to 11 is creative activity; he must express himself not merely in action but in doing *something* and in making *something*. The result of the questionnaire on children's interests showed this very clearly, and it should be the key to the making of the curriculum.

In trying to remodel the curriculum at High March, the following points were kept in mind:

1. That the emphasis must be on education as a living experience rather than as a preparation for life, and Junior education must be such as suits the Junior child. In giving him what is suitable at this stage we are also preparing him for the next.

2. That the world is so new and interesting, so full of a number of things that the child should be given the chance of experimenting and choosing. No one can learn everything, and if some time is allowed for sampling at this stage it is probable that he will select with more knowledge at 14 or 15.

3. That those skills and 'tools,' such as reading, writing, spelling, arithmetical tables and rules must be looked upon as the necessary means to education and not as education itself. It is not a proof even of a good Junior education that a child can read and write and do sums. Education is the enlargement of the whole personality.

4. That it is valueless to teach any subject that cannot be related to the child's life or to inculcate ideas which have no foundation in his experience. We therefore sought to look at the child in his environment and not at tradition and convention, when we constructed the curriculum.

The activities of the Junior School should include:

(a) Physical Exercise. This means freedom for physical development in out-door play as well as in organized games. Team games have a value apart from the exercise of the muscles; they help the child to develop away from egocentricism in play, towards the idea of co-operation.

(b) Constructive Handwork: the opportunity to create things with his hands; a knowledge of the proper use of the tools required. Whether to make something in connexion with a centre of interest in which a group is engaged, or something of use to himself, the child must not find his hands impotent to carry out the dictates of his mind through lack of manipulative skill. There is value in the later Junior years in the practical study of pottery or weaving by which the child can express himself in some simple craft.

(c) Nature Study, including gardening and the care of animals.

(d) English Language and Literature. This should include speech training through dramatization, oral and

written composition, with the emphasis on oral work, and spelling of all words children need to use in writing, as well as reading, stories and poems. Whether any formal grammar should be begun in the Junior School rather depends on the school. Where the children come from cultured homes, with more opportunity for reading and being read to, with few of the speech defects common in the elementary schools, with a larger vocabulary and therefore a greater power of self-expression, a much higher standard will necessarily be achieved in written English. The early pitfalls into which children slip can be made a basis for the incidental study of English Grammar. It should be given as a help to writing correct English.

(e) Arithmetic and Practical Geometry to meet the requirements of constructive work, of shopping and all the situations in the Junior's life which require a knowledge of this subject, as well as the drill work on the four rules which makes for economy of time.

(f) There are two ways by which we can lead children from interest in themselves and in their immediate environment to wider social interests. Firstly, we may make use of the child's interest in his immediate environment, in what he sees in coming to school, in the way he comes, in the weather, in the things he eats and uses, to give him a knowledge of the geographic conditions that help to make his life; these will lead on to the conditions governing other places in the world. How the things we use come to us, where they grow or how they are manufactured; the life of the people who help to produce these things we eat and wear and use, etc., are subjects of interest to the inquiring Junior. Where possible, suitable pictures and the use of films are more valuable than small 'geography' models made by children. If it is only possible to borrow a projector or for schools in a neighbourhood to share one, the Gaumont-British Instructional Films, Ltd., loan films quite reasonably. Secondly, as is proved by the study of children's questions, we can make use of their great interest in the origin of things. We can develop this interest

outwards by tracing the things we use to-day back to their beginnings in the days of our grandmothers, or our great-great-grandmothers. We can satisfy the interest in stories of heroes by telling the stories of the great men and women of Literature and History. These subjects may be called Geography and History and Literature—it does not matter at this stage. Geography and History do not necessarily come into every term's work in the earlier Junior stages, but some form of social study will be included.

(g) The aesthetic subjects by which the child can gain satisfaction through self-expression:

(i) Music, including singing, eurhythmics, aural culture, musical appreciation, etc.

(ii) Art, which is, for the Junior, the child's own expression of what seems to him interesting, beautiful, or useful, in water-colour and pencil, as well as in clay, chalk, wood, or any other suitable material.

The question arises in some of our Junior Schools of a second language—either French or German. While children at this stage are not ready to make a formal study of any language, if they are intelligent and come from cultured homes it seems desirable that another language should be heard soon after the child is seven. This should not, at first, take the form of lessons so much as games and songs, and should certainly be taken by a native of the country, because little children catch intonation so easily and quickly. If we believe that every educated adult should know at least one language besides his own, there is no reason why the direct method of teaching French by means of games, plays and reading should not be begun in the Junior School.

This division into subjects is of course a matter of convenience for the present purpose. In actual practice there is a considerable amount of overlapping. Although Eurhythmics, for example, comes under the subject of music, it may also be considered from the point of view

of physical exercise, of self-expression through music, or purely as musical interpretation. Geography at this stage is very closely connected with Nature Study on the one hand, and with History on the other. History and Literature overlap, as the *Arthurian Legends*, *Robin Hood*, *Childe Roland*, or tales from the *Iliad* and the *Odyssey*, may quite well be told either in the History or in the English lesson if the time-table is divided into periods. Handwork will come at some time into practically every subject, and dramatization will be a general activity. Art or History may lead us on to the borders of the study of architecture, and at some time either Nature or Geography will lead to the request for some knowledge of the stars and the movements of the Earth, and other planets. It will thus be seen that the line drawn between one subject and another is purely arbitrary.

In practice it is wise to have a scheme of work covering the four years in the Junior School, even though sometimes more and sometimes less than what is planned may actually be carried out. The work will also vary within the limits set down if the children are allowed to follow their own interests, but a definite plan should be made so that each teacher knows roughly what is to be covered in the year in each class. There will then be no unnecessary overlapping. Paper schemes can convey little of the real value to the child of the work done. It is possible that the most formal list of subjects can have more life in the teaching of them than an attractive-looking scheme if the former is motivated by the child's purposefulness and the latter is not.

The following are some of the questions put to me during the last year or so by heads of Junior Schools, by teachers, or by lecturers in the training colleges, with regard to my curriculum. They are quoted because they throw light on some of the problems with which the Junior School is faced:

1. How is it possible to let children follow their own lines and yet teach all they are expected to know in preparation

for Senior Schools, even apart from the question of Scholarship examination?

2. The Head of the Senior School says that unless children begin on a definite course of study towards the School-leaving Certificate when they enter, they cannot take it at 15 or 16, and unless they have reached the required standard on entry they cannot begin this course.

3. How is the required amount of formal Grammar-for entrance to the Public Schools to be covered?

4. The Arithmetic required is of such a high standard that the child could not reach it by learning only what is of practical use. How do you propose to keep the interest and reach the standard?

5. What is one to do about specialists who come down from the Senior School to take certain classes? It is they who govern the time-table.

6. In every class there are children who are lazy and who will shirk work unless they are compelled to do it. What do you do about them?

7. Your scheme seems practicable only in ideal conditions, not in a large ordinary school.

It would be tedious to describe the whole plan of work from Group I to Group IV in any detail, but I shall try to show how the central activity during each of the twelve terms arose as the result of something that interested one or more of the children and was taken up by the whole group, and how this led to the need for knowledge in various subjects. The whole emphasis in Junior method should be on the things the children want to do and to make and to question about. Any observant teacher knows that every child in the class does not learn all she teaches. At most, she can hope that some part of every lesson is grasped by some of the children. If she is really observant she will see that often quite unimportant incidents are remembered, while the points she wanted to make are lost. She will compare the zest with which a child tells of a visit to a lighthouse in the holidays and his memory for all the

details of the history and the working of its light, with the lukewarm reception of many of her lessons. Why not, then, use these four precious years in the Junior School for giving vivid experiences and helping children to gain as much as possible from these? It will be argued that such a scheme leaves many gaps. I would reply that in any case there will be gaps, but if a child arrives at the age of eleven with a background of knowledge gained by first-hand experience, an inquiring mind and some idea of the way in which to set about solving a problem, he has been given the best possible preparation for the Senior School. It has already been pointed out that printed schemes can convey little or nothing of the actual value of the work to the child, but the following will give some idea of what was done during a typical Junior course of four years. The first term only will be given in more detail as in this way it will be possible to see how far the individual interests of the child determine the activities of the group, and how far the group as a whole influences the child. The value of work of this kind lies in the compulsion felt by the child himself to undertake it, lines of interest opened up and the way in which different subjects serve the purpose of furthering his knowledge or of perfecting his skill, so that the attempt simply to copy a project would render it practically valueless.

GROUP I (Ages 7-8). AUTUMN TERM

CARAVAN (from interest in holiday camping)

English

Reading and collecting of gipsy poems and stories.
Making of a caravan book.

Constructive work

Making of a caravan, 3 ft. by 1 ft. 5 in. Making of rush mats, clothes-pegs, brooms, pots, etc. Making of beds, bed-clothes, curtains, etc.

Nature

Wild life of the moor and streams in Sept.-Nov.

Number

Measurement in yards, feet, inches. Addition of pennies and shillings and giving of change.

Stories told

'Brian and the Wood Folk', etc., etc.

Poems learnt

'If I lived in a Caravan', 'Berries', 'Meg Merrilies', etc.

Other activities

Making of plans. Picture plan of gipsy encampment. Setting up a tent. Making a fire out of doors. Noting weather observations.

In this autumn term the children came back full of talk about their holidays by the sea and at a farm. Some of them had been camping. What should they do this term? To make a caravan seemed the most popular idea. It was to be one like that of the gipsies who were camping in a field by the railway between Denham and Beaconsfield. Jane said she would make a large picture of the country where their caravan would be. This led to some discussions as to the best kind of place for camping, and something was learnt of the conditions necessary for the life of wandering people dependent on selling their wares. The camp must be near a river for water, there must be wood for the fire, and they must not be too far from a market town where they could sell things and buy bread. One group of children undertook to make the caravan from a plywood tea-chest. They first drew sketches from which the teacher prepared a plan. This was measured, copied on to the wood and cut with a fret saw. They carefully measured and cut out the space for windows and door. The curved roof presented some difficulty and had to be made of corrugated card-board. Other small groups of children made wooden pegs, clay pots, sewed curtains and bedclothes, made small raffia baskets, brooms and mats from rushes they had gathered from the woods.

Mary noticed that in the picture the caravan was only

five inches from the river, and asked how far it would be really. This led to the question of distance measured in yards and of greater distance to the market town measured in miles, and the table of Long Measure was learnt. John wanted to know how long it took the gipsies to get to the town two and a half miles away, and thus a new problem in arithmetic was introduced. As things to sell were nearing completion, much practice was done in quick addition of shillings and pence and in the giving of change for every one was anxious to go to the town to buy and sell. By the end of the term the children had learnt how to give and to follow directions to certain places, had gained some idea of the way to tell time by the sun and the length of the shadows, of the points of the compass, of the directions from which the cold, the warm or the 'rainy' winds blow, the names of some of the clouds and what causes the rain. They practised writing carefully in pencil script so that their poems could be put in the caravan book, for which they also collected or drew pictures.

One afternoon the Group took a tent and went to Hodge Moor where they set it up, made a fire and boiled water. They gathered blackberries and other things to take back to the Nature room. Here is an entry in Betty's diary: 'We went to Hodge Moor with the tent and Ian and I got sticks for the fire and I have not seen such a long trail of black briony before and I did get it and after tea we stamped the fire out. On the moor we found a deserted drey which had been blown down from an oak tree at the edge of the wood. The field before you get to this wood is covered with mole hills.'

GROUP I (Ages 7-8). SPRING TERM

Picture of new baby gazelles brought for news sheet, and visit of some of the children to the London Zoo led to

ZOO PROJECT

English

Making of original poems and songs about the animals.
Making of a Zoo book. Writing of 'Instructions to Visitors'.

Notices for Cages. A 'Zoo Alphabet' frieze. Making of Guide books.

Constructive work

Cages made by individual children. Some of wooden boxes with wire bars, others of cardboard with string bars. Making of the Mappin Terraces and Penguin Pond, with plaster of Paris. Making of keepers' caps, wooden pay-box. Printing of tickets.

Number work

Continuation of money sums for taking entrance money. Measurement required in construction.

Other activities

A visit to the London Zoo.

Nature

Insects of the Zoo chosen to be studied. Making of a wormery and keeping of an aquarium.

Animal geography

Stories of animals in their own haunts.

GROUP I (Ages 7-8). SUMMER TERM

The finding of a prehistoric arrowhead in a river bed in Essex by the sister of one of the children led to an interest in

THE BEGINNING OF THINGS

Stories of Primitive Man (read or told from Dopp's Series)

Just So Stories, The First Alphabet, The Cat that Walked by Himself. Dramatization of story.

Constructive work

Making of large woven shelter in the garden. Making of weapons and implements: knives, scrapers, needles, hammers, etc. Making of properties for play.

Number work

Practice of barter and idea of exchange of goods. Origin of measures and weights used in England.

Nature

Tracking of birds and animals, watching the habits of squirrels, etc., in the woods. Finding edible berries and roots, etc.

GROUP II (Ages 8-9). AUTUMN TERM

Interest in building of a new Post Office in Beaconsfield led to project of

POST OFFICE

English

Letter-writing. Learning to address envelopes. Sending telegrams. Writing out licence forms, etc.

Constructive work

Making of P.O. counter, pillar-box, sorting-boxes, stamps, envelopes, post-bag, etc.

History

of the post traced back from to-day to early times of the post-boy.

Number

Addition and multiplication of money. Practice in mental arithmetic for giving of change. Reduction of money. Weighing of parcels. Avoirdupois weight table learnt and used.

Following letters by air mail to various countries on large air mail map.

Music and nature were independent of the main project.

GROUP II (Ages 8-9). SPRING TERM.

The voyage of one child in the group to America in the S.S. *Majestic* led to a project of the

HIGH SEAS

English

Sea stories collected and read. Children divided into groups for different aspects of life on the high seas and made a class book which included accounts of famous voyages, original sea stories, etc.

Constructive work

Making of the *Majestic*, 6 feet by $1\frac{1}{2}$ feet. Making models of ships through the ages from coracle to modern British liner and seaplane.

History

connected with famous ships. Stories of explorers followed on large floor picture-map of the world from the point of view of the influence of winds and currents on early discoveries.

Music

Songs of the sea and sea music. An original class song.

Arithmetic done in this term had no connexion with the main project. Children learnt long multiplication and long division; decimal notation; practical fractions, reduction of money and weights and measures. Nature work done on the germination of seeds under varying conditions was also independent of the project. Any forcing of the interest on the part of the teacher, e.g., to give nature 'lessons' on sea creatures would have been as far removed from our aims as any formal imposed work, and as artificial as the old method of correlation.

GROUP II (Ages 8-9). SUMMER TERM

There were two special centres of interest during this term: the making of a garden, and Windsor Castle and the River Thames. The latter arose from a visit of Queen Mary to Beaconsfield while she was staying at Windsor Castle, and the frequent visits of the children to the Thames at Windsor during the summer.

WINDSOR CASTLE

English

Old English Ballads and other poems. Making of a guide book to Windsor, etc.

History

The story of Windsor Castle and history in connexion with various towers, St. George's Chapel, etc. Story of the Knights of the Garter.

Geography

The River Thames from source to mouth.

Constructive work

Digging of 'The Thames' in part of the school garden from plan made during visit to Windsor. Making of river craft. Construction of Castle, partly in wood, partly in cardboard.

Arithmetic

Mainly the work involved in construction.

The children asked to be given a spare piece of ground about 30 feet by 20 feet for a garden.

THE GARDEN

Outdoor work

Digging flower-beds. Making path. Collecting stones, weeding, watering. Planting seeds, bedding out seedlings, etc.

Constructive work

Gardening aprons of hessian embroidered with wool. Padded kneeling mats of sacking. Wooden weed-boxes with plaited rush handles, coloured and decorated with designs or pictures in oil paints.

Arithmetic

(1) Making of plan to scale. (2) Bills dealing with buying of implements, seeds, etc.

Nature

Effect of length of sun during day on growth of plants. Useful insects and harmful insects found, worms, etc.

WORK DONE IN THIS GROUP DURING YEAR, APART
FROM PROJECTS*Practical Geometry*

Names and classification of solids. Drawing of solids, etc. Use of compass and protractor, measurement of angles.

French

Songs, games, reading of Madame Lapine. Acting of 'La Belle au Bois Dormant' and 'Le Gamin et le Roi'.

*Music*¹

Folk-songs: (a) working songs, e.g., 'Dashing Away with the Smoothing Iron', (b) sea songs, (c) songs of animals, (d) lullabys. Original threshing songs were composed.

Art and Craft Work

- (1) Stick printing; potato printing; lino cuts, etc., used in illustration.
- (2) Dressing of dolls, etc.
- (3) Clay modelling.

Weather Charts and Nature Calendars kept

Record of direction of wind; state of weather, sky, etc., and a parallel nature calendar is kept by most of the group, and these are often compared from year to year.

English

The writing of stories or poetry for the *Wood Folk Magazine* and the reading of other books and stories apart from those in connexion with project.

GROUP III (Ages 9-10). AUTUMN TERM

CHIEF CENTRES OF INTEREST

- (a) The stories of heroes through the ages: spontaneous dramatization; written accounts; tableaux in puppet theatre prepared with flat figures, etc.
- (b) A Parents' Party:
Children sent invitations; wrote out recipes; cooked bread, cakes and sweets; brought necessary things, arranged competitions, decorated the library according to colour scheme, etc.
- (c) Countries of the British Empire:
This began with a study of Canada, described more fully in the next chapter, which so interested the children that they asked if they might learn about other countries of the Empire. On the last day of term they voted for

¹ This only indicates the central musical interest during the year and does not include all that was done, e.g., eurhythmics, aural culture, percussion band, etc., which occupies about 2½ hours per week in the Junior School.

the country to be studied during the next term, and both teacher and children were expected to collect pictures and anything else of interest in the vacation.

GROUP III (Ages 9-10). SPRING TERM

CHIEF CENTRES OF INTEREST

- (a) The furnishing of a 'Wendy House', a garden room about 9 feet by 12 feet. Children made a table, two chairs and a stool of deal, which they painted green; two sets of book-ends for the window sills, a tablecloth and curtains; they painted the name-plate for the door. This room, with its own small garden, is used now for odd classes and for the children's own use in the summer.
- (b) It was in this term that the children asked for the origins of things in use now. We took them from an historical point of view back through the ages to their beginnings: the school, the post, transport, houses, lighting, etc.

GROUP III (Ages 9-10). SUMMER TERM

CHIEF CENTRES OF INTEREST

- (a) The farm. The children each brought a penny a week towards the maintenance of the animals, and the buying of food, straw, etc., was managed by them, so that there was the keeping and balancing of the farm accounts, and for a time while the hens were laying, an egg account book was kept.
- (b) Countries of the British Empire: India: There was an Indian exhibition at the end of the term.
- (c) Preparation for a Greek garden play, 'Tales of Olympus'. This was arranged by the class and included the Judgment of Paris, Apollo and Daphne, Persephone, Echo and Narcissus, and Pandora. Some of the scenes were spoken and some mimed to music.
- (d) The children this term read a translation of the *Odyssey*, and wrote an original puppet play, 'Penelope and Telemachus', which they gave to the rest of the school.

Arithmetic covered during the Year

Addition and subtraction of vulgar fractions. Prime factors, L.C.M. and H.C.F. Four rules in decimals. Simple graphs in connexion with rainfall and temperature.

Practical Geometry

Use of instruments—construction of triangles and polygons from given measurements; parallel lines, drawing of plans to scale.

French

Reading of 'Bamboula' and 'Les Contes Arabes'; work from *Le Livre Bleu*; writing of simple descriptions and incidents; speaking for two or three minutes on a chosen subject. Giving of two French plays: *Les Deux Annonces* and *Les Fleurs*.

Music

- (i) Children prepared short talks on the lives of early composers: Haydn, Bach, Handel, Mozart, and learnt to know something of their music. Original compositions were tried, and a song was written by the group.
- (ii) The work of the 'Romantic School': Schubert, Schumann, Brahms, Chopin, Dvořák, etc.

Art and Craft Work

Experimenting in spinning and dyeing of wool. A course of weaving from primitive looms the children had devised; rug-making on box looms; pattern-weaving in wool.

GROUP IV (Ages 10-11). AUTUMN TERM

CHIEF CENTRES OF INTEREST

(a) Life in the Middle Ages.

This work is described in the next chapter and included lectures arranged by the children on different phases of medieval life; a medieval scene arranged in the puppet theatre; a medieval play written and acted by the class; reading and study of *Tales from Chaucer*.

(b) Countries of the British Empire: South Africa.

GROUP IV (Ages 10-11). SPRING TERM

SPECIAL CENTRES OF INTEREST

Shakespeare's England

This began with stories of England in the time of the Tudors following Life in Medieval England done in the last term. One or two speeches were read to the children from Shakespeare's *Henry VII* and *Henry VIII*. They expressed their appreciation and asked if they could read the whole of one of Shakespeare's plays. I chose *As You Like It*, and read them parts, and sometimes let them read parts. They showed more interest and understanding than I expected, and we read several of Lamb's *Tales* to get the stories of other plays. These were familiar to several of the children, and they expressed a desire to read another play instead; as one of the children put it: 'I must say I much prefer "pure" Shakespeare.' We then studied life in England, and especially London life in the time of Shakespeare. The children prepared a reading from *A Midsummer Night's Dream*, two scenes of which they finally memorized, 'as it is less clumsy without our books'. Also a puppet play from Act II or Act IV, Scene i. They learnt several Shakespeare songs, folk-dances of that time, and a 'Shakespeare afternoon' was arranged. These children are now 12½ and have read, seen, and, for their age, critically appreciated five or six plays. Each term I suggest a prose book to be read, and they say, 'Yes, but we'll do a Shakespeare play as well.' It would not have occurred to me to introduce Shakespeare to children so young, but they were so eager and responded with so much joy that if they did no more during their school life they would have been given the right kind of introduction to our greatest dramatist. This is only possible, of course, where children have a high intelligence and a good general background.

GROUP IV (Ages 10-11). SUMMER TERM

SPECIAL CENTRES OF INTEREST

- (a) A Survey of Beaconsfield. This work is described in some detail in the next chapter.

- (b) Tracing History backwards. This was taken from the point of view of 'life in the time of our mothers, grandmothers and great-grandmothers'.

The group divided into several sub-groups for the purpose of tracing back 100 years, 1935-1835, such things as dress, food, transport, trains, cars, aeroplanes, wireless, letters, toys, games and recreations, etc. The many interesting pictures collected and notes made from information gathered from many sources have made a useful and informative, though of course a somewhat sketchy, 'social history' of the last hundred years.

Children of this group are given on an average about two lessons a day. The rest of the time is spent in working by themselves, in searching for information, in reading, and practical pursuits. At a year from this time many of them have to take entrance or scholarship examinations to public and other schools. The formal English and French Grammar, Mathematics, and sometimes Latin that must be done forms a project in itself, and they are quite ready to take on a new and important piece of work. The important thing is that in the Junior School they shall have been shown how to work with concentration and interest.

Arithmetic covered during the Year

Multiplication and division of fractions and 'mixed' fractions.

Proportion by rule of three.

Averages.

The metric system.

Formalized arithmetic; introduction to algebra; factorization and simple equations.

Geometry

Congruent triangles. How to find width of a river and height of a building, etc.

Elementary Science

This work varies and is usually based on questions asked in cooking, about air, water, etc. Simple experiments are undertaken, e.g., evaporation and condensation, the various ways of ridding water of impurities, the making of a simple barometer, etc.

French

Reading of *Memoirs d'un Ane* and *La France*. Giving of French 'Speeches'. Written composition, and the grammar that arises incidentally. Two French plays, *Le Charbonnier est Maître Chez Lui*; *Bettine*, by Alfred de Musset.

Music

- (i) Early English composers: Byrd, Purcell, etc. The early instruments, ancestors of our orchestra.
- (ii) Music in Shakespeare's time; pastoral music—original pastoral songs were attempted.

Craft Work

A course of needlework and embroidery. Some children continued weaving, making braid looms and weaving belts, etc. Others did a course of pottery.

I have refrained from giving alternative schemes that might be suitable for different types of school because I am convinced that each teacher must work this out for herself and must be led to a certain extent by her children. I have given in brief what has actually been done in one school to show how much children may gain by following their own interests, under the guidance of some one whose experience helps them to expand and develop these further, and to show that children of Junior age are capable of wide interests, and on the whole enjoy a full life of hard work, so that we must not allow any devotion on our part to one particular method to narrow our outlook. Much is included that could be left out; it is not an ideal scheme, and is more formal than many; it is even now being somewhat modified, and as we learn more, will be changed again, but it has been found practical and workable.

To return now to each of the questions quoted above on pp. 85-6:

1. If we know our children we can give them living experiences that will appeal to their interests, and out of these we can awaken the desire for further knowledge which it is our business to show them how to obtain. The ability

to express themselves vividly, and with originality, showing a knowledge based on experience and not bare facts (which is more likely to be the result of work based on interest than on coercion) is an asset in a scholarship examination, and a good preparation for a Senior School.

The foregoing schemes will show that so-called formal work can itself, if need be, become a project. To make it so is the best we can do, with things as they are.

2. I hope we shall come to the time when only selected children will take the School-leaving Certificate, or when there will be an alternative final test. However, as it is, the foregoing schemes ensure the child's reaching the required standard in his stride and without external pressure, as has been proved by the good places taken in Senior Schools where advanced formal work has been required.

3. The formal Grammar now required can be covered in a year if children have had sufficient practice in oral and written composition, if they have had the chance of reading much good literature, and have tackled story-writing themselves, where they will find pitfalls, e.g., in making the verb agree with the subject, in punctuation, and in using the correct pronoun in the subject and the object of the sentence. Grammar can, and to a certain extent *should* be a necessary part of learning how to write correct English.

4. I agree that in practically all the entrance and scholarship papers I have seen, far too much is expected in Arithmetic; I have included in these schemes more than is of practical use solely because we are bound by these examination demands. The only thing to do is to relate the early work—at least till eight years old—to the child's needs, and to give practice in the rules that help him to solve his problems quickly and economically. Any child, for example, will see the sense of multiplying 24 by 8, instead of setting it down 8 times and adding it up. Not all children find out for themselves such things as that a dozen at $\frac{1}{4}d. = 3d.$, at $\frac{1}{2}d. = 6d.$, and at $\frac{3}{4}d. = 9d.$, but if they are once shown, it saves a great deal of time. It is possible in the Junior School at any rate to show the use of most of the rules we

teach—whether in the later stages we actually *wait* for the need to arise before teaching them or not. The awkward ‘mixed’ vulgar fractions, often dealing with absurdly small fractions so beloved by setters of examination papers, appear to have no use whatsoever. It is not at all uncommon to find children who enjoy juggling with figures for their own sake and delight in difficult problems and long sums. With ten- and eleven-year-olds we can approach some of these apparently useless rules by the method of guessing and trial and error, as we would tackle the solving of a puzzle. The important thing is to see that every step is clearly understood.

5. The only answer to the question of specialists who come to take certain subjects at certain set times is to call on the organizing ability of the teachers to arrange their day in the best possible way under difficult conditions, until such time as the Junior School becomes self-supporting. But the time will not come without a regular, solid, periodic protest at staff meetings.

6. It has been pointed out elsewhere that laziness *may* be the child’s physical salvation. We must first seek for the child’s reason for work-shirking. Perhaps too much is being expected of him and he is too discouraged to attempt anything more—perhaps not enough, and he is thoroughly bored. But the child who dreams away, or who seems to lack initiative, generally has some interest which, if it can be found and encouraged, will prove a spur to further effort. This is more easily found in some such system as the foregoing, than in the ordinary class-teaching system. E.g., Richard came to school at eight and could not read a word. He was not dull, but had travelled about with his parents; he had expressed no wish to learn and no one had taught him. He was tall, and it was impossible to put him in a lower age group, but he was so discouraged by finding he could not read or write as the other children could, that he would make little effort to do anything. There was a project on ‘Holland’ going on, and it was one of the countries Richard had visited. He not only brought a

model windmill and a pair of clogs, but cut out with a fret saw and painted a number of wooden figures of Dutch boys and girls. The exclamations of the other children, 'Did you really make these yourself?' 'Oh, isn't Richard clever!' just gave him the assurance of a place in the group that he needed. From that time he made rapid progress in learning to read. The system of setting weekly assignments, and of expecting the children to prepare their part in class lessons, is in its way compelling, but it is the children who become responsible for their work—and this is of far greater value than any outside compulsion.

7. I do not think there is anything either in the foregoing schemes or the description of life at High March in the following chapter which could not be carried out in a large 'ordinary' school. The conditions are good, but they are not ideal; indeed, where are we to find conditions which wholly satisfy us? I expect some of the hideously substantial elementary school buildings seemed ideal in their day, and the mistake is that in many cases the pedagogical structure within seems almost as permanent. But the transformation from a dull lifelessness to a living education is of more value than, and can exist independently of, small numbers and suitable buildings. Nothing has been described here that may not, and indeed *has* not, been done better in other and perhaps less favourable conditions.

CHAPTER X

A JUNIOR SCHOOL EXPERIMENT

It will perhaps be of some help to those especially interested in Junior education, to show how a study of the Junior child was used as a guide to the choice of the curriculum and arrangement of work in one school, and how it led to the adoption of certain methods. This can best be done by an attempt to outline the activities of the school over a short period. It is in no way intended to serve as a model of what should be done, but rather as a record of a plan actually carried out. In this way the mistakes as well as the advantages of the plan will be shown. As has been said before, the school and the circumstances must help to decide the method. This Junior School of about sixty children has the advantage of being situated in a small town, surrounded by open country, beech woods and fields. The children are of good, and some of high, average intelligence.¹

The School has had to overcome the difficulty of convincing parents that in following out their interests instead of working to a fixed time-table, the children are not wasting time, and that by being actively interested and not coerced they are being more truly educated. It has had to live through years of financial uncertainty, which is usual in the case of private enterprise, but it has had the advantage of being trusted.

The children enter the Junior School from the Kindergarten at about 7. There are four groups, with about fifteen children in each. Each is in charge of a teacher with a good general training and, if possible, with a special interest and further qualification in one direction. In Group I, where

¹ Many of these children were tested individually with Burt's London Revision of Terman's Revision of Binet, and all were tested with the Northumberland Group Test, the results in both cases being almost identical. The average Intelligence Quotient in 1934 was 123. The highest I.Q. was 160, in two cases.

the children are roughly 7 to 8 years, and in Group II, where they are 8 to 9, the work is, as in the Kindergarten and Transition classes, mainly on Project lines. In Groups III (9 to 10+) and IV (10+ to 12) we have perhaps two or three centres of interest, and work according to a modified Dalton plan. Each group has a room, and there is also a library, a handwork room, a nature room and a geography room, where work is done in groups or individually, and the children use these rooms in their free work times.

THE PLAN OF WORK

The general plan of work in each group is based on a centre of interest which may last the whole term, or for a shorter or a longer period. It is not based on any one definite, prearranged project which is found by experience to appeal to all children of a given age, such as is the case in the Dewey School, nor do the children pursue their individual projects as in the *Maison des Petits*. The suggestion of the project to be carried out usually comes from the children. For example, a child may say, 'I think we might make a garden out of this piece of ground', or, while the interest in the annual visiting fair was running high, the children of one group wanted to make a fair themselves, and in another, a gipsies' caravan. If the making of a garden, a fair, a village, a railway, or a caravan, or whatever the suggestion may be, appeals to the rest of the group, the teacher makes this interest the foundation on which she bases her schemes of work. Thus the actual activity is a reason for the formal work that must be done; for no one can build the houses for the village without being able to do some accurate measuring; or serve in the village shop without a knowledge of money tables, of adding and giving change, of being able to make out a bill, to weigh in pounds and ounces. Reading and writing are also necessary as a means of finding out more about the subject in hand and for keeping records of the progress of the project. The making of the fair by seven-year-old children may be a

starting-point for the study of history, and the annual fair in the market-place be traced back to times before motors and motor-buses, when the stage-coach drove up to the inn, when the stocks were in use, and so on. The railway as a means of communication, linking up their own town with others and with London, the means by which things necessary for life are brought to the town, may serve as the starting-point of geography.

This may seem all very haphazard to those used to formal schemes, and to working to a time-table with a certain number of fixed periods for each subject. But it is not so lacking in method as at first appears. In our experience it means more organization, forethought and preparation on the part of the teacher, and harder work and greater enthusiasm on the part of the children.

All the formal work that is done in Group I arises from the project, which is the reason for it, and therefore becomes something undertaken by the children for a purpose, and not something imposed from without. The first part of every morning is given to formal work and the perfecting of skills. During this time the children may work individually while help is being given to small groups, or a lesson may be given to the whole group. The formal work will include the teaching of new rules and practice in arithmetic, practice in reading aloud, entering in dictionaries and learning to spell words that are needed in project records and in other written work, writing practice, and so on. After a twenty minutes' break, the rest of the morning is given up to practical work and to group lessons in history, geography, and practical outdoor work in nature or geography, etc., arising out of the project. A short time is also given to conversational French. The afternoons are generally given up to outdoor games, eurhythmics, drawing and painting, and other practical pursuits which may or may not be directly bearing on the project. While twenty minutes to half an hour is considered the maximum amount of time that children of 7 to 8 should be kept working on one subject, we found that when the activity was

self-chosen—just as in play—they would continue for a very long time at one thing, and often go on till it was completed. In that case there seems no point in stopping the children intent on the solving of a problem in arithmetic, or in planting their seeds or paving a path or measuring and sawing up wood for the rabbit hutch, to give them a history lesson. It happens sometimes that the history lesson is crowded out of the week, but there comes a week when the interest in the history side of the project is so great that a larger share of time than that usually allotted is given up to this. There is always a danger of becoming a slave to a method, and it is most necessary that the teacher should not become a slave to a project—that she should feel free to tell stories, and read poems that have no bearing whatever on the project in hand.

Much the same plan is followed in Group II, but here the children do rather more written work in connexion with their projects, and more group lessons are given. It is the time when stories of heroes and explorers are very popular. Much practical work in nature is done in this group too. The 'farm' is rather a spasmodic interest, and is revived with enthusiasm from time to time. But this is the fault of circumstances which are less satisfactory than they should be. A part of the garden—roughly 20 ft. by 60 ft.—is partitioned off by high wire-netting, and divided into three sections with doors through into each—one is given over to rabbits, one to guinea-pigs and one to a couple of hens, with odd tortoises, a hedgehog, etc., for which the children made the hutches and runs. The difficulty of keeping pets in a day school which was entirely shut up at week-ends, when some one had to be responsible for feeding and cleaning out in all weathers through a cold winter, was one of the reasons for giving up the farm, for there were times when of necessity the responsibility rested on an otherwise fully occupied grown-up. The Kindergarten was more successful with its guinea-pigs and rabbits, for they were kept in the garden of the schoolhouse. During one long summer vacation some of the Junior children took

a week each of responsibility for the farm, but a germ attacked some of the rabbits and they had to be destroyed. A calamitous accident when a strange dog broke into the hutches put an end for the time to the keeping of outdoor pets, and attention was turned to dormice, aquaria, wormery, silkworms and the insect-breeding cages.

In Groups III and IV an assignment is given which may be done by the whole group, but which in some cases may be arranged for individual children, e.g., a child who has come late to the school is probably not on a level with her mental age group in arithmetic, and it depends on the child whether it is wiser to let her join a lower group for this, or give special help in her own group. About two hours a day is spent in individual work, when any subject may be done at any time. The children are free to work in any room and there are no restrictions about talking or working in small groups except in the library, which is a quiet room, carpeted and carefully furnished. In the days of class-teaching when the teacher did the talking there was less danger of over-stimulation on the part of the child, who could go into a trance and retreat from the strain of listening for a time, while still appearing to be interested—though there was always the chance of being wakened by a sudden question. But when he is actively interested and the class-room has often the hubbub of a busy workshop, it is essential that an opportunity is given for the child to go off to be quiet—to read or to think by himself. In this age of speed and bustle we must give children time to be quiet, as a necessary part of their education.

The assignments set are not so individual as in the Dalton Plan, and are only supplementary to group lessons. They often entail individual research on some aspect of a subject as the child's contribution to the whole. During one term, Group III were studying life in the Middle Ages, and nine children each undertook to study one subject and to prepare a three- to five-minutes lecture on it to be given to the whole group. One chose 'Schools in the Middle Ages'; others, the Church, Ships and Explorers, the Guilds, Dress,

Recreations, Punishments, Travelling, etc., etc., and large pictures were prepared in illustration of the particular topic. When the lecture had been submitted, it was corrected, copied out in careful writing, and either learnt or read and re-read so that it would be spoken clearly and be interesting to the listeners. Four children in this group did not feel capable of giving a lecture, and together they set up a scene of a medieval fair in the puppet theatre, and made the goldsmiths', the clothmakers', the leather workers' and other stalls, people buying and selling, a group of priests, a man in the stocks, and so on; all of which required a considerable amount of reading up of customs and looking up of pictures. It was interesting to see how eagerly these children explained the scene to those who crowded round it afterwards.

The written lectures were bound, with a collection of pictures, and the whole forms a useful reference book for future use.

Group IV undertook a 'Survey of Beaconsfield and District' during one term, as others have done from time to time, but this was approached from a rather different point of view and intended to be fuller in scope. The children divided into small groups of 3 to 5, one group undertaking a study of the physical features of the district: the soil, ponds, stream, hills, etc.; one group the vegetation, including a survey of the farms in the neighbourhood; one the communications, dealing with the transport of produce to and from the town, buses, trains, etc.; and another the economic features—the work of the people, trade, etc., while a fifth group supplied information on places of interest in the region. Each group insisted that at least one member possessed a camera, and some really interesting photos were produced—one of a partly built house, with an accompanying article on the source of the house-building materials. The collecting of data led to enthusiastic research, and a member of one group made a 7.30 a.m. visit to a farm to watch a modern milking process and to make an inventory of the farm stock. It will be seen that a greater appreciation

of world geography can be given when children realize that the laws governing conditions in their own neighbourhood are the same as those which govern conditions in the major regions of the world. These examples merely illustrate the type of individual work that is done and show that it is nearer to the 'project' method where the child works individually towards a group interest than the Dalton Plan, in which the work is entirely individual.

A quarter of an hour is spent every morning in physical exercises—when possible in the open air—before assembling for the opening of school. An hour and a half, generally after the mid-morning break, is given up to group lessons given by the teacher, to the giving of prepared lectures, debates, etc. At eleven o'clock, we might find Group I in the Nature room breathlessly watching the emergence of a cabbage white, or busily sewing gardening aprons, or engaged in weighing out groceries and making out bills; while Group II may be sitting in a circle round a large floor map of the world following a little model ship on the voyage of Vasco da Gama on the sea-route to India, or Drake on his travels round the world. Group III may be reading 'Bamboula' or preparing a French play, while Group IV are concerned with congruent triangles. It seems to me that it matters less *what* we teach than *how* we teach; for in any case much must be forgotten. But it is surely of fundamental importance that children should be given, for example, a love of Shakespeare and of all good literature; and that they should have the door of poetry opened to them. The well-worn method of teaching history has produced in too many of us a reaction against it. We say all in one breath, 'I hated history, I never *could* remember dates', as if the dates were the important things to remember. Children should learn early to connect books with pleasure. If this is considered more seriously to be the business of the Junior school, there will be fewer of the readers of trash of which librarians complain, and fewer people who read nothing at all.

DISCIPLINE

The fact that the children are allowed to use the rooms freely, either individually or in groups, so that at certain times in the day the teacher may have her class scattered all over the school, might be expected to lead to disciplinary difficulties. In practice we have not found this to be the case. It is an understood thing that each is responsible for himself during individual work periods and that, therefore, every one works hard and does his best. Because the children are interested in their work; because it is something real; because the grown-ups believe that what is being done is valuable and they are there to take part and ready to help in the work, there is a sincerity and a spirit of industry that is seldom observed where class-teaching methods prevail. I have noticed this same atmosphere in larger schools, particularly in one large Elementary School where the children are given this freedom and where there were no signs of difficulties of discipline. The response of the Junior child to trust placed in him is remarkable.

The discipline at High March is free. It is understood that there are no rewards or punishments; but it is also understood that children behave in an orderly way, are reasonably tidy and punctual. There seems no reason why courtesy, punctuality, tidiness and cleanliness should not become habitual at the Junior stage. The danger arises from the unreasonableness of grown-ups, who so often hinder and balk children by their insistence on these things in undue proportion to their importance. This leads to extreme views, and a denial of their importance at all by some psychologists and modern educationists.

Difficulties of discipline for the teacher usually arise when she is not sure of her ground; and children also must know where they are. For this reason rules are useful. They may be written or unwritten, but if a school is to be properly regulated and orderly, there must be rules. They should be as few as possible, and should be made to be kept. If we watch children at play we notice that, whereas

the five- to seven year-old plays for the sake of *play*, the seven- to ten-year-old tries to win. There is a definite interest in rules which reaches its height about 11 to 12. To the Junior child, rules are sacred. In the earlier stage, 'whatever conforms to the dictates of adult authority is just', Piaget tells us. Rules appeal to him, yet, while he conforms to them, he likes to win the game. It is not until after about 11 that rules are recognized as being due to mutual consent and therefore alterable.

Our rules are unwritten, but every one is reminded of them at the beginning of the term. They are simple and such as are necessary in every community, are given in the affirmative and not in the negative, because it is found by experience that in 'Thou shalt not' the 'not' becomes obliterated. (I once saw in a Boys' Preparatory Boarding-school a list of rules on the staircase, and amongst them: 'No sliding down the banisters is allowed.' The 'No' had been carefully stuck over with stamp paper!) Every one is expected to be punctual; to bring the things required to the class so that no time is wasted in running to and from rooms; to walk quietly on the stairs and in the corridors; to behave courteously to grown-ups and to one another, and to leave rooms reasonably tidy after their work. There are no punishments for offenders and on the whole the rules are well kept. It became necessary, however, a short time ago to take steps to ensure tidier rooms. There are room monitors, elected from Group IV, who take charge of one room for a fortnight and keep it dusted and tidy, open the windows and do the flowers. There is keen competition in the keeping of the rooms, and it was considered a disgrace to be taken off through negligence. Some of the monitors complained that people using the rooms left them untidy; pots of paint, water in the handwork room, books left out in the library; and I had noticed a general slackness in leaving things about. It was time that every one was given a share of the responsibility, and it was solved in this way. Each group is given 20 marks every week. Whenever any member is unpunctual, or has left

anything about or, in short, has broken one of the rules, a mark is lost for the group. The teacher never draws attention to the individual who has lost the mark and no personal record is kept; it is automatic, and any chastisement is given by the rest of the group. This generally amounts to words of warning and reminder to the more scatterbrained members of the class. The group with the largest number of marks at the end of each term is presented with a picture for their room. This plan has had several terms' trial now, and seems to have worked very well.

I do not think that children under eleven are ready for any self-governing responsibilities, and the keeping of a few sensible rules that *they* can appreciate as reasonable is all that should be expected at that age.

WOOD FOLK

It is to the child of the later Junior period, that is the child of 9 to 11, that Scouts and Guides make such a strong appeal; one that differs, however, from its appeal to the adolescent boy and girl. To the Junior it is the outdoor life, the belt knife, the excitement of tents, of setting trails and tracking, a kind of innate joy in braving the elements, in being up against things; the kind of thrill which hide-and-seek gives, of pleasure tinged with fear, more than the comradeship and the hero-worship of a leader which characterizes the adolescent.

It is the time for secret societies and clubs, which have enthusiastic beginnings, but which seldom are long-lived. In a large neighbourhood where Brownies and Cub Packs exist it is perhaps better that the only responsibility of the school should be the provision of enough free time for these pursuits. In any case I do not believe that there should ever be homework for Juniors unless it is done in the place of compulsory afternoon school.

The High March Wood Folk has been in existence for about two years. It was started in response to the desire for something in the nature of a club, and takes its name

from our proximity to the woods and the natural bias of its aims. The aims were drawn up by a Council of Six and are as follows:

(1) Every member is expected to attend all meetings and enter into all games and competitions with a spirit of goodwill.

(2) Every member shall do her best by observation and study to learn all she can about the little folk of the woods.

(3) No member shall do anything at any time to harm or disturb the lives of the plants or of the little folk of the woods.

(4) Any member who does not show a spirit of goodwill and friendliness, either at meetings or at any other time, or who does not keep the rules, will forfeit her right to membership, or may be suspended for such time as the Council shall decide.

(5) The Trysting Place shall be known only to the Wood Folk.

At the trysting place—a clearing by a large beech—there is a conveniently large tree-stump, flat and smooth where the tree has been cut down, which acts as a platform, and weekly meetings are held there. The staff and the members of Groups II, III and IV are eligible for the Wood Folk, and we take a picnic tea after school on Thursdays and go tracking, or play hide-and-seek or 'dispatches', or some other game, until six o'clock. When principals, young staff and children can enter into a game with a healthy desire not to be beaten, with no question of being given in to because one is either young or old, there is much to be gained by all.

In winter, the Wood Folk meet for their picnic in the Upper School and divide into groups for games or other occupations. Some days we play table tennis in the gymnasium or lexicon in the library; on others the children divide into groups for pipe-making, craft-work, country dancing or magazine work.

The 'Tests' competitions are in charge of the members of the Council, and have so far been rather spasmodic. They have taken the form of gymnastic tests, general knowledge tests, needlework tests, wild flower competitions and the like, for which a coloured ribbon may be earned to attach to the Wood Folk badge.

THE PUPPET THEATRE

Punch and Judy and the talking dolls are never-failing sources of interest and delight, but the puppets that dance and sing and act with such realistic movements that after a time the dolls controlled by wires and strings give the illusion of real people on a real stage, are more entrancing still. About six years ago, and soon after the return to popularity of the travelling puppet showman, we were thrilled by a visit from Miss Marzials, President of the Oxford Guild of Puppeteers, with her delightful simplified puppets, ingeniously contrived with weighted feet, central wire and two strings. After seeing 'The Sleeping Beauty' the children were fired with enthusiasm for making a theatre themselves. Plans were drawn up, and a group of boys of 9 to 10 made the permanent wooden theatre, while girls sewed blue velvet curtains and made and dressed the puppets. It was then we realized that puppetry was going to open up many avenues of interest for us, and it has since become an absorbing project. To begin with, there was the play to be chosen and written. Our first play was 'Geraint and Enid', adapted by the children from *Idylls of the King*. Then there was the arranging of scenes, painting of scenery for the background and side wings, the making of properties, etc. The problem of dressing the puppets meant searching for pictures to be sure of the correct type of armour for the knights and the right dresses for the ladies. When the puppets were made and dressed, the practising was no small matter, especially the manipulating of knights on horseback tilting with skewers, which served for lances.

Apart from the value of the writing of the play, it provides speech-training, like dramatic work. The advantage of puppets over 'acting ourselves' was once discussed by the children, who thought that puppets offered much more scope. You can have horses and tournaments, and dragons, and fairies can really fly. Robin Hood can fall into the stream, and a tiger can be shot; there is no end to the possibilities, and scenery and properties are much more easily managed than on a real stage. They also agreed that puppets are more suitable for comic than for serious plays—'because they are partly comic already', whereas 'in acting ourselves we might feel silly if we had to take really comic parts'. I would add that the great advantage of puppet acting is the confidence that is gained by some children. Boys of 9 to 11 especially, who are too self-conscious to throw themselves into a part in front of an audience, excel at making a puppet act while they are hidden behind a curtain. Two boys who became very interested in puppets continued the hobby when they left the school. They made themselves a theatre at home and devised a much more perfect type of puppet, with a greater number of strings, giving more supple movement, and papier-mâché faces, which they made with remarkable skill. With several friends to help, they wrote and produced a play at their Preparatory School, which was enthusiastically received by the masters as well as the boys.

The theatre itself is useful in many ways for setting up scenes and tableaux in connexion with history and geography.

PAGEANTS AND PLAYS

It is here, if anywhere, that the co-operation of all the specialists on the staff is needed. The play may be launched by the English or the History lesson, or by the Geography lesson as far as that goes; but we cannot get far without the assistance of handwork, art, and music. The school play can give scope for the most excellent teamwork. It may be scenes taken from a book the children

are reading together, e.g., *Alice in Wonderland*, *Robinson Crusoe*, or one of the Greek Myths. They may decide to keep to the text, or to make up their own words. We have found the best results when children first spontaneously dramatize the chosen story in order to gain some idea of the action they want—a kind of rough sketch. The play is sometimes written by each child individually and read in turns to the rest of the class, who listen critically. Perhaps one part of one child's play is very good while other speeches are weak. In this case they are replaced by some one's better effort, and in the end every *good* contribution is used; they learn to pool their ideas and discriminate. It is then a class play. At other times the children divide into groups with two or three children specially gifted in this direction, to write or adapt the play, while others make the properties, costumes, etc.

Younger children need help with their work. They generally put down what they remember of the spontaneous speeches. But the most satisfactory results, apart from purely spontaneous dramatization, are found when the children give contributions and the teacher writes them down. This experience of ours, I find, is borne out by many teachers.

Next comes the casting of parts and learning of words. If the play does not require a crowd, half the group may act as producers. That is, they stand aside, watch critically, and give suggestions afterwards. Then actors can watch, and producers act. If the play is to be given before an audience, time and trouble must be taken to give a good performance, because it must convey to the audience what it is meant to convey in the same way as a picture, or a song or a piano solo, or orchestral music, should. I do not think anything called self-expression should be allowed to be slipshod. Here comes the need for training in proper voice-production, which seems rather neglected in many Junior Schools, and this is just the time to acquire a habit of clear speaking. Good enunciation must be insisted upon, but speech must be natural, not pedantic. Children must be

shown how to produce a carrying voice; vowels must be given due length and not be clipped; the voice must flow on.

Whatever the play, the rule should be:

- (a) Careful choice of a suitable scene.
- (b) Spontaneous dramatization.
- (c) Writing of the play.
- (d) Producing and acting.
- (e) Change over of actors and producers, and criticism.
- (f) Perfecting of words and enunciation.

The teacher's part in all this is to correct manuscripts, throw out hints, and help with voice-production so that it is natural speaking and not recitation.

In a pageant of English Literature done recently, each group contributed two or three scenes from some English classical story, play or poem, and Group IV arranged them in chronological order, in several cases writing or arranging the words. The following episodes were chosen:

1. Early English Minstrel scene, with the singing of a ballad at the Court of a Saxon King.
2. The Venerable Bede.
3. Scene from the *Passing of Arthur*. (Words from Tennyson).
4. A Scene from *Robin Hood*.
5. Chaucer's *Canterbury Pilgrims*: (a) At the Tabard Inn,
- (b) Part of the Knight's Tale.
6. Medieval Fair Scene with a Puppet Play.
7. Scenes from *A Midsummer Night's Dream*.
8. Scenes from *The Pilgrim's Progress*.
9. Two scenes from *The Water Babies*.
10. Scene from *Alice in Wonderland*.
11. *The Pied Piper*.
12. Epilogue.

Thus the pageant was a project in which the whole school took part.

PROJECTS

I will give here a more detailed account of several projects that have been carried out with children of different ages in the Junior School, to show how the project has arisen, how it has developed, and what part the teacher has taken in guiding the work that is based on the children's interest.

Wycombe Market. High Wycombe is our nearest town, and the market held in the wide High Street every Friday and Saturday morning has an interest for the children, and they know that things may be bought more cheaply there than in shops. One term Group I decided to make Wycombe Market. An attempt was made to overcome the difficulty of making their room look like the High Street by covering the walls with large sheets of white lining paper and painting on them in bright poster colours the shop fronts, the market building, the Guildhall. There were four stalls: a flower stall, a fruit stall, a sweet stall and a clothing stall. These were made by putting together two light folding desks, fixing to each of the four corners a small piece of wood, in which was bored a hole just large enough in circumference for the support of a wooden rod three feet long. On these four supports the striped awning was fixed. The stalls were thus easily moved, and were put up only on Friday, which was market day. On other days, rods and awnings were stored away, and the stalls were desks. The stall-holders worked busily at making supplies—paper flowers, paper ribbons, stockings, gloves, bills, paper bags, etc., and practising weighing and measuring, and adding and giving change. Papier-mâché fruits, and clay sweets were made until these seemed rather unsatisfactory and real sweets made at home were brought by some children. There was then the writing of recipes and the making of toffee, peppermint creams, coconut ice, etc., in the school kitchen. A post office—a project of the term before—was set up in the street and a pillar-box at the corner of the market. Fridays were busy days when the rest

of the school, and, occasionally, parents and friends, came to buy.

This project was a particularly satisfactory one because it practically covered the curriculum for children of this age. Collections of fruit wrappers led to an interest in the countries from which the fruit on the stalls came. Thus handwork, brushwork, arithmetic, writing, reading, stories, an introduction to geography, were all included. Music and nature study, however, in this case remained outside the main interest.

Travel Bureau. The interest of travel in foreign countries had been aroused by the prospective visits of several of the parents to Switzerland for the winter sports, and of one to Geneva for the Disarmament Conference, and there had been some poring over maps by the members of Group III. Then came a letter from a friend of the School, who from time to time thoughtfully made use of the School Post Office, telling of a proposed holiday in Italy and asking for information regarding means of travel, etc. 'It sounds as if we are "Cook's" to be consulted in this way,' remarked some one, and the idea of having a Travel Bureau was started.

The class-room soon became 'the office'. It was suggested by the teacher that it might be a wiser plan to restrict ourselves to two or three countries, and to know these in more detail, than to try to cover too much, and finally it was decided that the Travel Bureau would undertake to give information on five countries: France, Belgium, Holland, Switzerland, and Italy. The walls of 'the office' were covered with large maps of these countries, and a collection of pictures and post cards showing places of importance, types of country, industries, etc., was made.

The teacher collected some useful large-scale picture-maps from Cook's and other travel agencies. Five drawers in a chest were labelled each with the name of one country, and in them were kept all the pictures and information that could be gathered. It was necessary that certain definite lessons should be given and a constant amount of practice

done in the arithmetic necessary for dealing with French, Belgian and Swiss francs, lire, etc., and to know their relation to the £. The children were 9 to 10, and this is not the usual age for the introduction of the metric system, but it seemed necessary here at any rate to be able to add in francs and centimes, to know the length of a metre and a kilometre as compared with a yard and a mile, and the approximate weight of a gramme. I have never seen a class more keenly interested or more anxious to work accurately and quickly than these children who were playing at being grown-ups in an office, and who took to calling each other by their surnames.

Definite lessons were also given on the use of the continental time-table, which is not such an easy matter. A colonel who had to enlist officers in the War told me he gave it as one of his intelligence tests. Then there were lessons on the life of the people in various parts of the countries mentioned, besides the children's individual reading. Something of the outstanding personalities in the history of these countries had to be known and a collection was also made of folk-tales and other stories connected with them. Thus were included the story of the Hero of Haarlem, the story of William Tell, stories of the early Franks, of Venice in the Middle Ages. What was to be seen in Rome led back to the history of that ancient centre of civilization.

When the Bureau had been established a short time, letters began to come in. We were asked to recommend good centres for the Italian Lakes, with details as to means of getting there, good hotels, cost of staying a fortnight, etc., etc. We were to find a small village in the Bernese Oberland and advise between two means of travel; to recommend places of interest in Touraine, and to give something of the history of the places. 'I want to spend a holiday in Holland. Where do you advise me to stay? What route should I take? How long will it take me to get there, and what will be the cost of the return journey from London? You might also tell me something of interest about the place you recommend.' This was the kind of letter that

kept 'the office' busy. Some would be writing letters saying that the questions were being dealt with, while others looked up dates and time-tables; others still found pictures to enclose, and wrote a short historical and geographical description of the place. Hotel lists were sought out, and the cost of the journey and of first- and second-class hotels, reckoned up. Each person's findings were entered on a slip with the name of the inquirer and handed in to one who had to gather the facts and compose a letter in reply.

A great deal of work in many subjects was covered in this way during office hours, which were usually about two and a half in the day; and writing and composition made very appreciable progress.

Canada. An interest in Canada was started in Group IV by the visit of one member of the group to relations in Halifax, Nova Scotia, and by the arrival at the school of a girl from Toronto, who told us about her school there. Every one wanted to know more about Canada, and the study of the country outgrew the amount of time normally allotted to geography. We were furnished with large picture-maps, interesting posters and booklets from the Canadian Pacific Railways, and with a splendid set of posters of Canadian products, as well as leaflets dealing with wheat-growing in Ottawa, ranching, paper mills, etc., and salmon-canning on the Fraser River, etc., by the British Empire Marketing Board. These, with a collection of post cards, a first-hand account of forestry in Alberta from the brother of one member of the group, of bee-keeping from a bee-farmer in Abbotsford, N. Vancouver, a letter describing a journey across the Rockies, and one describing a visit to Niagara, apart from the geography books and wall-maps, provided us with sources for reading and study.

An account of life in the various regions was written: the Eskimos in the far north, the trappers of the forests round Hudson Bay, the saw-mills and pulp-mills on the St. Lawrence, the salmon-fishing and -canning on the Fraser,

the prairie farmers and ranchers. A collective scrap-book was made with pictures gathered from travel-books, etc. Every teacher knows how eager children are to bring things to school, and a collection of interesting things led to a Canadian 'museum': a model birch-bark canoe, seal-skin moccasins, a good collection of pressed leaves of various typical Canadian trees, some beads of wampum, and other things. A table model of the Canadian Pacific Railway running through pine forests with log huts, and a background of Rocky Mountains done in plaster of Paris, was made and set up.

It was suggested at the end of term that it would be interesting to have a Canadian sale, and it was arranged this way: three children were to take charge of each stall, and the stalls were to sell only Canadian produce. There was one for apples, one for honey, maple syrup, etc., one for 'breakfast cereals', one for tinned foods and Canadian cheese, and one for sweets and cakes made only from Canadian products. This led to much interest in shopping to provide the things for sale, and a great demand in the town for only Canadian goods. Each child provided some thing for one or more stalls, and was to receive for it exactly what she had paid. There was to be no profit made, but if possible an exact turnover.

On two afternoons before the sale the Group assembled in the school kitchen and made maple fudge and cakes from real Canadian recipes found in a booklet procured from Ottawa House, and made with such ingredients as Canadian flour, maize flour, pea-nut butter, rolled oats, maple sugar, honey, etc. There were altogether seven varieties, and we invented such name as Rocky Mountain cakes, Algonquin cake, Saskatchewan biscuits, etc. The stalls were tables set up in the gymnasium covered with yellow and green paper and decorated with maple leaves. The walls were covered with posters and pictures, and the Canadian flag was put up.

The sale was opened with the reading of short accounts of life in different parts of Canada. A competition for

parents had been arranged, and round the room were thirty pictures or symbols representing the names of places in Canada, and the prize for guessing the greatest number was a jar of maple syrup!

Apart from the work entailed in the making out of bills, and the balancing of accounts, the writing, composition, geography, history, handwork, etc., which formed part of this project, the intense interest in life in another part of the Empire was such that will not be forgotten by these children.

APPENDIX

FAVOURITE BOOKS CHOSEN BY JUNIOR CHILDREN

ONE hundred and fifteen girls from Private and Secondary Schools were asked to name their favourite books, putting five crosses against those they had enjoyed most, and had read, or would like to read a second time, four crosses against the next, three against the next, and so on:

BOOKS CHOSEN BY TWENTY-ONE GIRLS, 7 TO 9 YEARS:

xxxxx <i>Black Beauty</i>	xxxxx <i>The Blue Fairy Book</i>
Now We are Six	Told by the Northmen
Dr. Doolittle's Books	What Katy Did
Jungle Book (I)	What Katy Did at School
Alice in Wonderland	Favourite Greek Myths
Stories of Robin Hood	Alice Through the Looking-Glass
'Just So' Stories	The Wonder Book
Grimm's Fairy Tales	
Peter Pan and Wendy	xxx <i>The Wonder Book of Animals</i>
Swallows and Amazons	The Wonder Book of Why and What
Swallowdale	Little Women
Bedtime Story Books:	Puppies
Peter Rabbit	Jungle Book (II)
Grandfather Frog	xx <i>Peter Pan in Kensington Gardens</i>
Johnny Chuck	King of the Golden River
Reddy Fox	Arabian Nights
Sammy Jay	The Silver Fairy Book
Pip and Squeak Annuals	The Secret Garden
Wind in the Willows	
The House at Pooh Corner	
Winnie the Pooh	

BOOKS CHOSEN BY NINETY-FOUR GIRLS OF 10 TO 11+ YEARS IN ORDER OF POPULARITY:

xxxxx <i>Swallows and Amazons</i>	xxxxx <i>Black Beauty</i> (Anna Sewell)
(Ransome)	White Fang (Jack London)
Swallowdale (Ransome)	Wind in the Willows (K. Grahame)
Winter Holiday (Ransome)	Jungle Books (Kipling)
Peter Duck (Ransome)	
Coot Club (Ransome)	

- | | |
|---------------------------------------|--|
| xxxxx 'Just So' Stories (Kipling) | xxxxx Jo's Boys (L. Alcott) |
| My Dog Simba (C. Kearton) | My Happy Family (C. Kearton) |
| Toby, My Fox Cub (F. Pitt) | In the Days of Chivalry (Everett Green) |
| Moses, My Otter (F. Pitt) | In the Wars of the Roses (Everett Green) |
| Thy Servant a Dog | Coral Island (Ballantyne) |
| My Dog Toto (Kearton) | What Katy Did (S. Coolidge) |
| Animal Friendships (Kearton) | What Katy Did at School |
| Pink Sugar (O. Douglas) | Penny Plain (O. Douglas) |
| The William Books (R. Crompton) | Lovable Beasts (Harper Cory) |
| Anne of Green Gables (Montgomery) | Beetles and Things (Olwen Bowen) |
| Midnight Folk (J. Masfield) | The Tale of Tom Tiddler (E. Farjeon) |
| School on the Moor (Dorita Bruce) | Letters to Hilary (S. King-Hall) |
| Dimsie (Dorita Bruce) | Kim (Kipling) |
| Cecily's Highwaymen (Dorothea Moore) | Puck of Pook's Hill (Kipling) |
| Wee McGreggor (J. J. Bell) | Two Little Savages (E. Thompson Seton) |
| Czecho-Slovakian Fairy Tales (Capek) | Raggylug (E. Thompson Seton) |
| Emile and the Detectives (Blücher) | Rebecca of Sunny Brook (C. D. Wiggin) |
| Sherlock Holmes (Conan Doyle) | Lamb's Tales from Shakespeare |
| Swiss Family Robinson (Wyss) | Where the Rainbow Ends |
| Moorland Mousie (Golden Gorse) | Jerry (N. Paul and E. Helene) |
| Older Mousie (Golden Gorse) | Pink Furniture (A. E. Coppard) |
| 'Good Evening, Everyone' (A. J. Alan) | Jeremy (H. Walpole) |
| Sajo and Her Beaver People (Grey Owl) | Jeremy and Hamlet |
| Pilgrims of the Wild (Grey Owl) | Two Legs and Four (A. Armstrong) |
| | Red House Mystery (A. A. Milne) |
| | Tom Sawyer (Mark Twain) |
| xxxxx The Young Rider (Golden Gorse) | Huckleberry Finn (Mark Twain) |
| Little Women (L. Alcott) | Cricket on the Hearth (Dickens) |
| Good Wives (L. Alcott) | |

- xxxx*The Christmas Carol*
(Dickens)
The Chimes (Dickens)
Lives of the Hunted (E. Thompson Seton)
Hobbies, Pastimes and Sports for Girls
Wonder Book of Why and What
Red Cap Tales (S. R. Crockett)
- xxx*Cranford* (Gaskell)
Old St. Paul's (Harrison Ainsworth)
Krag, the Kootenay Ram (E. Thompson Seton)
The Cambridge Book of Poetry for Children (K. Graeme)
1066 and all That (Yeatman)
Horse Nonsense (Yeatman)
Our Village (Miss Mitford)
The Ponies of Buntz (Oliver and Ducat)
Phari (M. E. Buckingham)
Zong
Doney (Primrose Cumming)
Little Lord Fauntleroy (F. H. Burnett)
Jeremy at School (Walpole)
Portrait of a Man with Red Hair (Walpole)
- xxx*The Secret Jungle*
(McGregor)
Rob Roy (Scott)
Robinson Crusoe (D. Defoe)
Magic Walking Stick (John Buchan)
Wonder World (Cowan Whyte)
Anne of Avonlea (Montgomery)
Anne of the Island (Montgomery)
Anne's House of Dreams (Montgomery)
Water Babies (Kingsley)
Eyes of the Wilderness (C. D. G. Roberts)
King Solomon's Mines (R. Haggard)
School Girl's Own Annual
Jim Davis (J. Masfield)
- xx*Uncle Tom's Cabin*
Short Stories (H. G. Wells)
Ivanhoe (Scott)
Stalky & Co. (Kipling)
Treasure Island (R. L. Stevenson)
The Heroes (Kingsley)
Wild Life in Devon (Gordon)
Frisky Tales (Lady Farren)
Round the World in Eighty Days (Jules Verne)

xx*Eight Hundred Leagues up the Amazon* (Jules Verne)

Favourite poems chosen by forty-nine children in a Junior School. They are given as far as possible in order of preference for each age:

7 TO 9 YEARS:

- | | |
|--|--|
| 'He Thought He Saw'
(L. Carroll) | 'Puk-Wudjies' (Patrick Chalmers) |
| 'The Owl and the Pussy Cat'
(E. Lear) | 'From a Railway Carriage'
(R. L. Stevenson) |
| 'Sir Liketty Lox' (H. Chesterman) | 'Someone Came Knocking'
(W. de la Mare) |
| 'Mr. Nobody' | 'Duck's Ditty' (K. Grahame) |

- | | |
|--|--------------------------------------|
| 'Blackfriars' (E. Farjeon) | 'The Elephant' (H. Belloc) |
| 'Blue Curtains' (M. St. John Webb) | 'The Lion' (H. Belloc) |
| 'My Shadow' (R. L. Stevenson) | 'Silver' (W. de la Mare) |
| 'The Wind in a Frolic' (R. L. Stevenson) | 'The Brook' (Tennyson) |
| 'Johnny Head in Air' (<i>Shock-headed Peter</i>) | 'Boys' Song' (J. Hogg) |
| 'Wynken Blinken and Nod' (Eugene Field) | 'The King's Breakfast' (A. A. Milne) |
| | 'The Doctor' (A. A. Milne) |
| | 'King's Cross' (E. Farjeon) |

10 TO 11 YEARS:

- | | |
|---|---|
| 'Young Lochinvar' (Scott) | 'The Ships' (J. J. Bell) |
| 'The Jackdaw of Rheims' | 'The Voice of Spring' (M. Howitt) |
| 'Sherwood' (A. Noyes) | 'The Donkey' (G. K. Chesterton) |
| 'Cargoes' (J. Masefield) | 'The Brook' (Tennyson) |
| 'My Heart's in the Highlands' (Burns) | 'The Piper' (Blake) |
| 'Inch Cape Rock' | 'Good Night and Good Morning' |
| 'Meg Merrilies' (Keats) | 'Lady Laburnum' |
| 'Wizards' (A. Noyes) | 'The Tyger' (Blake) |
| 'From a Railway Carriage' (R. L. Stevenson) | 'The Quaker Gown' |
| 'The River' (Kingsley) | 'The Bugle' |
| 'Fairy Losing' (Morin) | 'Jerusalem' (Blake) |
| 'Drake's Drum' | 'The Mountain and the Squirrel' (Emerson) |
| 'The Eagle' (Tennyson) | 'Ye Banks and Braes' (Burns) |
| 'The Rainbow' (Wordsworth) | 'The Daffodils' (Wordsworth) |
| 'I'm a Rover' | 'If' (Kipling) |
| 'The Banks o' Doon' (Burns) | 'Ariel's Song' (Shakespeare) |
| 'La Belle Dame Sans Merci' (Keats) | 'Tarantella' (H. Belloc) |
| 'Hiawatha' (Longfellow) | 'Barbara Frietchie' (Whittier) |
| 'Father William' (Carroll) | 'Berries' (W. de la Mare) |
| 'Sweet and Low' (Tennyson) | 'Silver' (W. de la Mare) |
| 'Ode to Autumn' (Keats) | 'Robin Hood Ballads' |
| 'Reynard the Fox' (Masefield) | |

BIBLIOGRAPHY

I. PHYSICAL AND INTELLECTUAL DEVELOPMENT

- AVELING, F., *Directing Mental Energy* (University of London Press)
 BALLARD, P. B., *Mental Tests* (Hodder & Stoughton, 1923)
 BURT, C., *Subnormal Mind* (Oxford University Press)
 BURT, C., *The Young Delinquent* (University of London Press)
 BURT, C., *Mental and Scholastic Tests* (P. S. King & Sons, 1922)
 CALLOW, A. B., *Food and Health* (Oxford University Press, 1928)
 CAMERON, H., *The Nervous Child* (Oxford University Press)
 CAMERON, H., *The Nervous Child at School* (Oxford University Press)
 CATTY, N., *The Theory and Practice of Education* (Methuen, 1934)
 CURTIS, H., *Education Through Play* (Macmillan)
 GREEN, G. H., *The Day Dream* (University of London Press, 1923)
Handbook of Suggestions on Health Education (H.M. Stationery Office, 1930)
 ISAACS, S., *Intellectual Growth in Young Children* (Routledge, 1930)
 ISAACS, S., *Social Development in Young Children* (Routledge, 1933)
 KIMMINS, G. W., *The Mental and Physical Welfare of the Child* (Partridge, 1927)
 KELYNACK, T. N., M.D., Editor of *Childhood* (Booklet, 1/-)
 KERR, *Fundamentals of School Health* (Allen & Unwin, 1926)
 MCDUGALL, *The Energies of Men* (Methuen)
 NORSWORTHY and WHITLEY, *The Psychology of Childhood* (Macmillan)
 PIAGET, J., *The Child's Conception of Causality* (Kegan Paul, 1930)
 PIAGET, J., *The Child's Conception of the World* (Kegan Paul, 1929)
 PIAGET, J., *The Language and Thought of the Child* (Kegan Paul, 1926)
Report of the Board of Education on Health of the School Child (H.M. Stationery Office, 1931)
Report of the Board of Education on the Primary School (1931)
Report of the Board of Education: Syllabus of Physical Training for Schools (1933)
 RUSK, *Experimental Education* (Longmans, 1934)
 RUSSELL, BERTRAND, *On Education* (Allen & Unwin, 1930)
 SANDIFORD, P., *Educational Psychology* (Longmans, 1929)
 SCHWARZ, O., *The Psychology of Sex and Sex Education* (New Education Fellowship Booklet)
 SETH and GUTHRIE, *Speech in Childhood* (Oxford University Press)

- SPEARMAN, C., *The Abilities of Man* (Macmillan, 1927)
 SUTTIE, *The Origins of Love and Hate*
 WICKSTEED, J., *The Challenge of Childhood* (Chapman & Hall)

II. TEACHING METHODS

A. GENERAL METHOD

- BLEWITT, *Modern Schools Handbook* (Gollancz)
 CATTY, N., *Modern Education of Young Children* (Methuen)
 COLLINGS, E., *An Experiment with a Project Curriculum* (Macmillan)
 FERRIERE, A., *The Activity School* (Allen & Unwin, 1929)
 MACMUNN, *The Child's Path to Freedom* (G. Bell & Sons)
 MCMURRY, G., *Teaching by Projects* (Macmillan, 1921)
 PEKIN, L. P., *Progressive Schools* (Hogarth Press)
 RUGG and SCHUMACKER, *The Child Centred School* (Harrap)
 STEVENS, M. P., *The Activities Curriculum in the Primary Grades* (D. Heath & Co., N.Y.)
 WELLS, M. E., *A Project Curriculum* (Deals with the American Elementary School) (Lippincott)

B. HANDWORK, ETC.

- BERRY, J., *Handwork for Juniors* (Pitman)
 COCKERELL, D., *Bookbinding* (Pitman)
 COCKERELL, S., *Marbling Paper* (G. W. Russell-Hitchen)
 CRAMPTON, C., *Cane Work* (Dryad)
 CRAMPTON, C., *Rush Work* (Dryad)
 DOBSON, M., *Block-Cutting and Print-Making by Hand* (Pitman)
 EDLMANN, E. ELLIOT, *The Making of Soft Toys* (Dryad)
 GOODYEAR, F., *Printing and Book Crafts* (Harrap)
 GOODYEAR, F., *Bookbinding Craft in Schools* (Evans)
 GREEN, D. SAINTSBURY, *Puppet Making*.
 GREEN, ROMNEY, *Woodwork in Principle and Practice* (Pepler)
 GRANETT, K., *Complete Guide to Hand Spinning* (London School of Weaving)
 GREGORY, A., *The Art of Woodwork and What We Make of It* (Dryad)
 HOLDING, M., *Notes on Spinning and Dyeing of Wool* (The Croft, Sutton, Essex)
 HOOPER, LUTHER, *Handloom Weaving* (Pitman)
 HOOPER, LUTHER, *Weaving for Beginners* (Pitman)
 HOOPER, LUTHER, *Weaving with Small Appliances* (3 books) (Pitman)
 JARVIS, M., *The Beginner's Guide to Carpentry* (Marshall)
 JONES, A. B., *Stitch Patterns and Designs for Embroidery* (Batsford)

- JOHNSTON, E., *Writing, Illuminating and Lettering* (Pitman)
 MARZIALS, A., *Simplified Puppetry* (Froebel Society Booklets)
 SIMPSON and WEIR, *The Weaver's Craft* (Dryad)
 SWANNELL, M., *Raffia Work* (Philip)
 SWANSON, M., *Needlecraft in the School* (Longmans)
 WHANSLOW, H., *Everybody's Theatre* (Wells Gardner)
 WREN, H. and D., *Handcraft Pottery* (Pitman)

C. ART

- ARMSTRONG, M., *The Paintbox* (Black)
 BULLEY, M., *Art and Counterfeit* (Methuen)
 EDMONDS and WATERFALL, *Practical and Artistic Activities in the Schools* (Allen & Unwin)
 FURNISS, *Drawing for Beginners* (Harrap)
 LITTLEJOHNS, J., *Art in Schools* (University of London Press)
 SAWER, D. D., *Everyday Art at School and Home* (Batsford)
 SAWER, D. D., *Art in Daily Life* (Batsford)

D. MUSIC

- CHAMBERLAIN, M., *Ear Training* (Novello)
 COLLES, H. C., *Growth of Music* (Humphrey Milford)
 DAVIES, M. G., *Music Making* (University of London Press)
 DRIVER, ANN, *Music and Movement* (University of London Press)
 JACQUES, R., *Voice Training in Schools* (Oxford University Press)
 MACBAIN, J. MURRAY, *Play-Ways in Musical Training* (Evans)
 MACPHERSON, S., *Aural Culture* (Novello)
 REED, *Story Lives of Great Composers* (Evans)
 DE RUSETTE, *Music Under Eight* (Evans)
 SCHOLES, P., *The Book of the Great Musicians* (Oxford University Press)
 SHARP, CECIL, *English Folk Songs* (Novello)

E. SPEECH TRAINING, ETC.

- GATES, *The Improvement of Reading* (Macmillan)
 GULLAN, M., *Speech Training in the School* (Evans)
 MEYRILL, *Plays and Play Making*
 MONNIER, M., *Marionettes, Comedies and Operettas*
 MCPHARLIN, PAUL, *A Repertoire of Marionette Plays*
 PARSONS, F., *The Gateway of Speech* (Ginn & Co.)

SOME REFERENCE, AND OTHER BOOKS FOR
CHILDREN'S USE

- Pictorial Knowledge*, 8 vols. (Newnes & Co.)
Children's Encyclopaedia, 10 vols. (Arthur Mee)

- The Wonder Book Series* (Ward Locke and Co.)
Myths and Legends Series (Harrap)
English Literature for Boys and Girls, H. E. MARSHALL (Jack)
'In Poem Town' Books, I, II, III, RIDOUT (Blackie)
The Oxford Book of Ballads (Oxford University Press)
The Oxford Book of English Verse (Oxford University Press)
Tales of Ancient Greece (Dent)
The Adventures of Odysseus—Retold in English (Dent)
Stories of King Arthur and the Round Table (Dent)
Myths of the Norsemen, GUERBER (Harrap)
The Heroes of Asgard, KEARY (Macmillan)
Stories from Froissart, H. NEWBOLT
Tales from Chaucer, Done into English by E. FARJEON
The Life of Jesus of Nazareth (Eyre & Spottiswoode)
The Story of the Bible, KENYON (John Murray)
Bible Stories for Children from 8 to 10, M. J. CHALMERS (Nelson)
The Story of Mankind, VAN LOON (Harrap)
The Home of Mankind, VAN LOON (Harrap)
Great People of the Past, RHODA POWER (Cambridge University Press)
The Children's London, F. H. LEE (Harrap)
Tales for Jack and Jane, E. CLARK (University of London Press)
Foundations of History Series, by various writers (Nelson)
History of Everyday Things in England, QUENNELL
Piers' Plowman Series (Harrap)
Letters to Hilary, S. KING-HALL
Tracing History Backwards, S. KING-HALL
The Romance of Transport, ELLISON HAWKES (Harrap)
Simple Science, ANDRADE and HUXLEY (Blackwell)
More Simple Science, ANDRADE and HUXLEY (Blackwell)
Living Things for Lively Youngsters, T. J. S. ROWLAND, (Cassell)
More Living Things for Lively Youngsters, T. J. S. ROWLAND, (Cassell)
The Young Explorer's Log Books: Practical Note Books for Junior Schools—Books II, III, IV
The Geography of Everyday Things, vols. I and II, SANDON and WEST (Oxford University Press)
The Citizen of the World Series, J. F. UNSTEAD
Peeps at Many Lands Series (Black)
Great Explorers, FINCH (Evans Bros.)
A Nature Calendar, DAGLISH (Dent)
The Fairyland of Living Things, R. KEARTON (Cassell & Co.)
The Rambler Series, J. CAXTON (Blackie)
Cotton and the Spinner
Wool and the Weaver
Silk and the Silk Worker, etc.

- Nature by Day*, J. ARTHUR THOMSON (Ivor Nicholson)
Nature by Night, J. ARTHUR THOMSON (Ivor Nicholson)
Shown to the Children Series (Jack)
Wayside and Woodland Trees, STEP (Warne & Co.)
Life of the Wayside and Woodland, STEP (Warne & Co.)
British Birds, W. H. HUDSON (Longmans)
Life in Ponds and Streams, FURNEAUX (Longmans)
Common British Moths, A. M. STEWART (Black)
British Butterflies, A. M. STEWART (Black)
Birds of the Countryside, FRANK FINN, B.A., F.Z.S. (Hutchinson)

INDEX

- Abnormal cruelty, 78
- Adenoids, 6
- Adler, 11
- Aesthetic appreciation, 42, 43
- Aesthetic development, 40, 48
- Aggressive acts, 77
- Animals, 76
- Arnold, 27
- Arithmetic, 59, 83, 86
- Art, 84
- Assignments, 107
- Attention, 26-30
- Attitude towards environment, 73-9

- Baldwin, 27
- Ballard, 17
- Bergson, 25
- Binet, 16
- Board of Education, 1
- Boredom, 30, 68
- Breathing exercises, 6
- Burt, Cyril, 72, 103

- Canada, 121
- Centres of interest, 94
- Concentration, 27, 30
- Co-operative games, 73
- Constructive handwork, 82
- Craft work, 47, 50
- Creative activity, 40, 54, 81
- Cruelty to animals, 78
- Curiosity, 31, 39
- Curriculum, 2, 39, 55, 80, 102, 103

- Dalton Plan, 3, 104, 107, 109
- Debates, 20
- Deductive reasoning, 17
- Dehning, 42
- Dewey School, 104
- Discipline, 110
- Dramatization, 116
- Drawings, 41, 52

- Emotional response, 48
- Emotional tone, 43

- English, 60
- English language and literature, 82, 83
- Eurhythmics, 14, 84
- External compulsion, 29
- Eye-strain, 8, 9

- Fairy tales, 46
- Farm, 106
- Favourite subjects, 58
- Formal work, 105
- French, 84, 96, 99
- Froebel, 4

- Gaumont-British Instructional Films, 83
- Geography, 38, 61, 65, 83, 85
- German, 84
- Gesell, 1
- Girl Guides, 112
- Grammar, 65
- Gymnastics, 60, 69

- Hadfield, J. A., 55
- Handwork, 8, 50, 59
- History, 39, 61, 63
- Homework, 112

- Imagination, 49
- Individual differences, 10
- Inductive reasoning, 17, 18
- 'Infant method,' 2
- Intelligence quotient, 34, 42, 103
- Interests of children, 55
- Isaacs, Susan, 1, 15

- Junior School Experiment, 103-23

- Languages, 84
- Laziness, 9, 10, 101
- Leisure, 14
- Lewis, 26, 72
- Lichtenberger, 44
- Logical memory, 25
- Lymphatic glands, 6

- Maison des Petits, 104
 Memory, 22-6
 Mental health, 29, 55
 Meumann, 42
 Montessori, 1, 3
 Müller, 42
 Munsterberg, 27
 Music, 44, 84, 96, 99
 Myers, 27
- Native tendencies, 55
 Nature study, 58, 82, 85
 Needlework, 62, 63, 65
- Obliviscence, 24
 Observation, 41
 Order, 111, 112
 Organized games, 11, 12
- Pageants and plays, 115
 Pestalozzi, 4
 Pets, 106
 Physical development, 5
 exercises, 11, 12, 13, 82
 skill, 14
 types, 5
 Piaget, 111
 Pictures, 43, 44
 Pillsbury, 27
 Plan of work, 87, 99, 104
 Poetry, 45
 Popular occupations out of school, 70
 Preferences of children for rhythm and melody, 44
 Primary report, 1, 6, 55, 56, 80
 Principle of correlates, 53
 Pritchard, R. A., 72
 Projects, 118, 123
 Project method, 4, 89, 90, 91, 92, 93, 101, 109
 Puppetry, 50, 114
- Questionnaire, 56
 Questions, 31-9
 subject of, 31
 concerning the universe, 33
 objects in everyday use, 34
 human origin and destiny, 34
 birth and reproduction, 36
- Reading, 60
 Reasoning, 15-22
 Reconstruction of curriculum, 80
 Recreation, 13
 Relation of children to adults, 75, 76
 of children to animals, 76, 77
 Rules, 110
- Scholarship examination, 3, 100
 School-leaving certificate, 100
 Scouts, 112
 'Seasonal craze', 71
 Security, 13
 Self-assertive tendencies, 74
 Self-expression, 50, 51, 53
 Singing, 61, 64
 Smedley, 25
 Social consciousness, 73
 Spearman, 16, 53
 Subjects liked least, 64
 Survey of Beaconsfield, 108
- Taste, training in, 47
 Tonsils, 7
 Tracing history backwards, 98
 Travel bureau, 119
- Valentine, C. W., 45
- Wheeler, 27
 Wood folk, 112
 Work habits, 28
 Workshop, 49, 51
 Writing, 63, 65
 Wycombe Market, 118